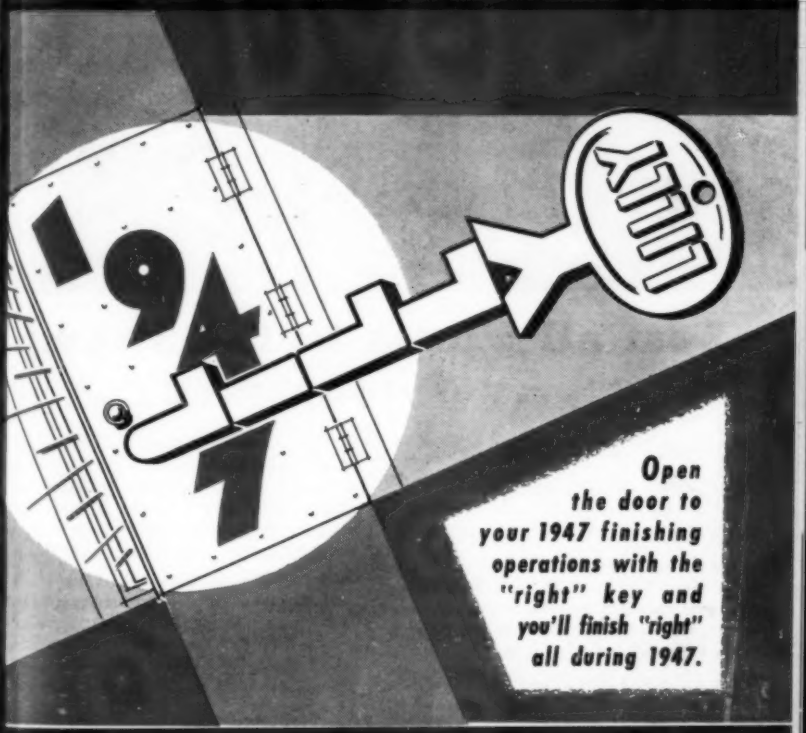
Industrial FINISHING



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TWENTY-THIRD YEAR OF PUBLICATION

Industrial FINISHING

W. H. ROHR, Editor P. C. BARDIN, Associate Editor

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Old-Fashioned Outlook — What this country needs is reconversion to the virtues of individual initiative, hard work and intelligent planning. That is the opinion recently expressed by U. S. Senator Saltonstall. Discussing his homely philosophy of government, the New Englander declared:

"Our governmental system rests on a strong foundation when we have a good home, a good family life, a community which we love and a state where we are happy and have a good job. These practical realities of our American way of life are based on common sense, hard work, integrity of character and spiritual faith. These are the qualities of heart and mind and body with which our ancestors built up our great country . . ."

* * *

Smart Auto Decoration—Development of a plastic process for creating decorative interior automotive paneling and trim, opening a new period in functional motor car styling, is announced by the Briggs Mfg. Co.

The Briggs plastic, which reproduces in rich color and grain any type of wood, leather or cloth, or any combination of them, is now in use on the new De Soto Suburban, just added to the De Soto Custom line. Interior doors, rear quarter panels and deck lid panels on the Suburban are fabricated of Briggs plastic.

A. W. Prance, supervisor of Briggs design and research, says the plastic process sandwiches actual photographic reproductions into a durable plastic sheet.

"Anything that can be photographed can be reproduced in molded plastic for complete interior trim. The full richness, depth and texture of wood and leather finishes can be duplicated so perfectly it takes an expert to distinguish the plastic from the original material."

Abrasion and scratch tests show that the Briggs plastic has a durability surpassing regular wood and wood veneer panels.

* * *

Reputation Names Ahead—Foreseeing the beginning of normal competition in 1947 manufacturers with "reputation" names are bending every effort to bring into the market some of the new distictive features billed in the war years as the coming "postwar wonders", with the aim of making their products the most popular buys.

A cross-section of industrial leaders attending the 51st Congress of American Industry at the Waldorf Astoria Hotel expressed the view that if and when full production is restored by the elimination of material shortages and strike threats, and by the ability to expand plant facilities where needed, customers could expect resumption of the traditional march

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of branded products toward greater service and better values.

"Improvements and developments in old lines of brands, and pioneering in new fields can be counted on," according to Mr. H. A. Bullis, president of General Mills, Inc. "Some of these improvements are reaching the market now, and others will follow in the next few months. Competition between brands will enable the consumer to get more value for less money, through the constant effort of manufacturers to broaden the base for distribution of their products through advertising, and by product improvement to give higher value and quality at competitively lower prices."

* * *

More Aluminum Used—The year 1946 has seen aluminum receive popular recognition as an outstanding material for building products. Millions of pounds daily have gone into this one use for aluminum. There is hardly a locality in the country that cannot boast of its bright, shiny, new buildings covered with aluminum sheet. And where aluminum itself has not been available, users have gone to aluminum paint, especially on roofs, for the added coolness afforded by the high reflectivity of these coatings.

Transportation people are evincing exceptional interest in Reynolds' recently announced line of knocked-down all-aluminum truck and trailer bodies because here aluminum's lighter weight pays off in greater payload capacity and its non-rusting quality means longer life with less maintenance. Likewise several railroads are running operational tests on new refrigerator cars and other units made of aluminum.

Several types of aluminum furniture developed to determine marketing possibilities in this field revealed an unusual amount of public interest and established remarkable sales records wherever shown.—Reynolds Metals Co.

* * *

More Walnut Lumber—Foresters of the nation and mills belonging to American Walnut Mfrs. Association are working to keep the supply of American Walnut a continuing crop on the farms and woodlands of the the nation.

Walnut Industry mills collected and furnished to State Forest Nurseries more than one million walnuts in the 1945-46 season, and the program has been doubled for 1946-47. These walnuts were stratified properly by the nurseries and were distributed to farmers and timberland owners for planting purposes.

Loggers and foresters of the various mills, which are located mainly in the Ohio, Mississippi and Missouri valleys have overseen the collection of the nuts.

In addition to the planting program, walnut mills of the Association are rendering assistance and advice in seeing that the seedlings survive to become trees, through proper handling and cultivation. A manual for correct silviculture is provided by the Association. This program is handled locally by the mills' foresters and by their logging buyers.

* * *

"How To Cut Costs"—If you'd like to expedite and economize on portable tool operations in your finishing department or shop, here's something to read: The Rotor Tool

(Continued on page 102)

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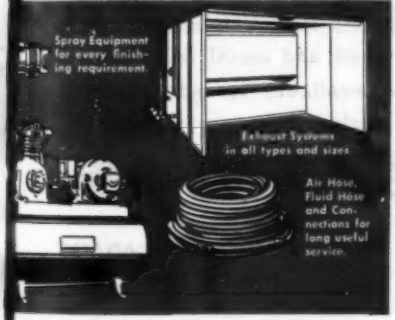
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CORRECT PAINTING procedures that assure fine finishes embrace many factors, including the type of object and surface to be coated; properties of the spray material, adaptability of the spray equipment to the job, its handling and adjustment; and finally, the technique of the man behind the spray gun.

• • •

THE PURPOSE of this column is to help solve finishing problems by presenting simple but effective *HINTS* that eliminate rejects, lower costs and increase production.

Look for the first release of DeVilbiss Hints on Finer Finishing in February and every month thereafter.

OUTLOOK FOR FINISHES in 1947

What to expect of the wood and metal finishing materials which will be available to industrial users now and later on during the present year.

By RAYMOND C. ADAMS
Technical Director
Gilman Paint & Varnish Co.

FUNDAMENTALLY, users of industrial finishes think of them in terms of, 1) cost, 2) ease of application, 3) drying time, and 4) quality.

Unquestionably the cost of all finishing materials will be some higher in 1947 than during 1946 prior to decontrol. Because of the varying raw material market and labor conditions, selling prices are likely to vary considerably from one supplier to another, all depending upon the extent to which each is affected

Ease of application, which includes the method of applying — as, for example, brush, dip, spray, etc. — the number of coats necessary, odor and any hardships involved in applying the finishing material, should remain unchanged. For that matter this factor has not proved very difficult during the recent trying years.

In general the drying time of industrial finishes in 1947 will be less than in 1946, but will not be comparable to pre-war years. The drying time of most finishes is largely determined by the oils used. In 1946 China wood oil was readily available, but until decontrol one couldn't afford to use it because of its high price. Supplies of soya oil and dehydrated castor oil and their fatty acids were limited for several reasons.

Castor oil, although not a drying oil itself but which plays a very important part in the drying oil picture, was likewise not available in quantity in 1946. All indications are that the paint industry will have available for use more of these oils in 1947 and thus better drying industrial finishes.

The quality of finishing materials in 1947 will be considerably higher than in 1946, but still will not be up to pre-war standard. In 1947 we will probably experience less shortages than in 1946 and thus we will be required to do less substituting to keep our customers supplied. Obviously the less substitution the higher the quality.

To be more specific concerning finishing materials in 1947, a discussion of industrial finishes can be divided into the following groups: 1) cabinet wood finishes, 2) air-drying metal finishes, and 3) baking metal finishes.

Wood Finishes

Of the wood finishes the furniture industry consumes the largest volume and the types used are typical of finishes used on other wooden articles. Lacquer, varnish and forced-dry synthetics constitute the bulk of the furniture finishes.

In general the lacquer situation in 1946 was not too bad. We didn't have all the various types of resins, plasticizers, solvents and pigments that we wanted but we had sufficient and got by without sacrificing quality appreciably. Pigmented lacquers caused us concern in 1946 because we couldn't obtain sufficient pigments. All indications are that pigments will continue tight in 1947. Clear lacquers in 1946 were almost up to pre-war quality, and 1947 should reduce the difference. With the exception of "Gel Lacquers", which are limited to the dipping application of rather small items, there have not been any new developments in the lacquer field. Fundamentally manufacturers are striving to obtain pre-war quality and performance.

As for varnishes, no marked developments have been made and so in 1947 we will be striving for pre-war quality. Varnishes in 1946, because of raw material shortages, were relatively poor, and 1947 will see a great improvement in that respect.

The forced-dry synthetics picture in 1947 will be brighter because supply will be considerably better. Here again no new developments have been made and the accomplishment of pre-war quality will be the order of the day.

To summarize, the supply and quality of clear wood finishes in 1947 will be bright and very com-

parable to pre-war standard. Pigmented wood finishes will approach pre-war quality but will be limited in supply because of pigment shortages.

Air-Drying Metal Finishes

Most air-drying metal finishes are pigmented and were thus tight in 1946. This year may bring some improvement in this respect. The quality and drying time of this type of material in 1946 was bad. With more of the necessary resins and oils on the market, quality and drying time should approach pre-war standards in 1947. This will be true of both varnish and synthetic-base finishes.

It might be said that in the field of alkyd resins, which play an important part in synthetic base finishes, the use of pentaerythritol has enabled us to make finishes of high quality with greatly increased drying time. These finishes will be far more in evidence in 1947 than 1946 and will surpass, at least in drying, alkyd-base finishes of the pre-war years.

The situation with regard to metal lacquers is a little different than wood lacquers. In the first place metal lacquers, as a whole, are much higher in quality than wood lacquers. The necessary resins and plasticizers to make quality metal lacquers were short in 1946. This year will be much better in that respect. Because of the shortage of pigments, the metal lacquer supply probably will not be much improved over 1946. However, metal lacquer quality in 1947 will approach that of pre-war standards.

In summarizing the air-drying metal finishes, it can be said that production in 1947 will not be so much greater, if any, than in 1946. Quality, however, should approach pre-war standards, with the pentaerythritol alkyd finishes surpassing previous standards in speed of drying and still maintaining as good if not better quality

Baking Metal Finishes

In general the situation as concerns baking metal finishes is analogous to that of the air-drying type. Production will be limited in 1947 as in 1946 because of pigments, but drying speed will be greatly improved as will quality. In many instances the use of pentaerythritol alkyds and melamine resins will produce baking finishes superior to similar pre-war type.

Thos. M. Lyman, Sec.-Treas. of Baughn Chemical Products

The Baughn Chemical Products Co., Inc., Chicago 22, Ill., announces the election of Thomas M. Lyman to the board of directors and secretary-treasurer. Mr. Lyman, recently released from the army after more than

Thos. M. Lyman is elected to the Board of Directors and Sec.-Treas. of Baughn Chem. Products Co.

five years service, is a graduate of the University of Illinois.

Baughn Chemical Products Co., Inc. is exclusive processor of Crystal Tack Rags, nationally distributed direct through large paint manufacturers, dealers and jobbers. The product, which stays soft and tacky indefinitely, has many uses on paint production lines and in auto refinish shops.

DECORATIVE *Plastic Veneers: Where and How Used*

Full color reproductions of fine hardwoods and marble can be applied to flat or curved surfaces made of wood, metal, wallboard or plastic.

By ROSALIE FLANK

The handsome radio, one end of which appears here, is finished in a re-created light mahogany lacquer veneer.

"THE difficult can be done at once; the impossible takes a little longer". This famous Signal Corps slogan (with slight variation) might well be used to describe the possibilities and real utility of a photographic plastic veneer finish which had its start after World War I, and which has been gaining in popularity through the years — hitting its stride during World War II when shortages of fine cabinet hardwoods and figured wood veneers opened new fields for this versatile product.

Taking up where wood veneer leaves off, this plastic veneer recreation of beautiful wood grain provides a durable and attractive finish on wood, metal, composition or glass. Its versatility and flexibility make it adaptable for use as a trim over simple and compound curves; when softened it can be made to stretch. Since it resists heat and pressure, it may be applied to thin flat sheets of metal and then shaped on regular forming dies.

A Look into Where Plastic Veneers are Made

To understand the possibilities of this plastic veneer it is important to know something of its manufacture, method of application and its present use, together with its potentials as outlined by the manufacturer. To gain this information, I visited the Meyercord Co. of Chicago, one of the pioneers of photo lacquer veneer. This firm

Here the lacquer veneer showing wood graining is being applied to a radio panel by pressing it down with a rubber roller which squeegees out the excess cement. The metal is prepared for the coating of veneer by being primed with an opaque color that matches the background of the veneer. Holes are punched by the operator by merely pressing the applied veneer with his finger.

is turning out some 150 accurate, true-to-life stock re-creations of beautiful rare woods, colorful marble, inlay marquetry and novel patterns of reptile, leather, silver, gold, florals and fabric designs.

Ushered into the very modern, efficient, bustling office of D. E. Rautenbush, head of the lacquer veneer division of Meyercord, examples of the "art" of plastic veneer were to be seen everywhere. Edging between technicians busily testing the veneer under "unusual" conditions, one could understand the contagious enthusiasm of Mr. Rautenbush — enthusiasm which has spread through his staff of experts. Preparing to catch the evening train to view some exceptionally fine examples of rare wood which had come to his attention, Mr. Rautenbush explained how the company was constantly searching for the finest examples of wood, marble, reptile skins, fabric, etc., which could be photographically recreated, bringing to industry veneer effects in endless variety and matching with absolute fidelity the beauty of the rare originals.

Features of Plastic Veneer; Lacquer Decalcomania

Stressing the ease and speed of application, either manually or by machine, with which plastic veneer can be applied, Mr. Rautenbush explained that this veneer assumes a dual role of both decoration and finish. Made on a lacquer base and designed to be applied over lacquer, this plastic veneer is really a lacquer decalcomania in flexible sheet form. It is produced by first photographing the subject to be recreated in natural color; then reproducing it in color on a lacquer film base.

The veneer produced is tough, adheres well and provides a protective finish that doesn't crack or check. It has remarkable durability and may be treated after application by shading, rubbing or overtoning. It can be coated with any wax, lacquer or varnish type of finishing material; can be finished in a dull, satin, semi-gloss or gloss luster.

Produced in sheets 34x50-in. on simplex and duplex paper, the material is available in whole sheet form or pre-cut to size; or it may be trimmed by the user to the required dimensions and applied to practically any flat or molded surface. The material is easy to trim with a sharp knife or razor blade.

Printed face down, the pattern is not visible to the user as the sheet comes from the manufactur-

er. On one side there is paper; on the other a lacquer coating which, in reality, is the ground coat of the subject. The pattern is sandwiched between a clear lacquer coating next to the paper and the visible coat of pigmented lacquer. When it is transferred to the surface to be decorated, the pattern is face up with the heavy clear lacquer over it. A line key, printed on the back of each sheet marks the center of the sheet running the length and width. This is helpful when cutting small pieces, especially where figured quarter and center matched sheets are used. A suitable solvent solution is all that is needed to weld the film tightly to the surface that receives it.

Technique of Preparing and Applying Veneer

The welding cement consists of properly balanced lacquer solvents which resoften both the film and the undercoat; and as these semi-softened materials are pressed together they bond firmly and become a single unit when they dry. The excess cement is forced out from under the film by squeegee or roller pressure.

In small manual operations, lacquer veneer is easily removed from its backing by a short soaking in water; then the veneer is dipped into welding cement.

In small manual operations, where the veneer is being applied to metal, the paper backing of the veneer (which has been pre-cut to exact size and is usually furnished on single simplex paper for small operations) is removed by spong-

For larger operations flat veneered panels are run through pressure rolls. Liquid adhesive is sprayed on the panel before the veneer is applied. After emerging from the pressure rolls, the heavy backing paper is stripped off. The thin rice paper which remains is sponged off with clear water.

ing or soaking the paper with water. The film is then dipped in solvent and applied directly to the metal panel which has been previously prime coated with a lacquer base primer. In some instances the primed surface is sponged with the diluted cement and the lacquer veneer is immediately placed on the surface and then pressed down with a rubber hand roller. When transparent photo film without the pigmented ground coating is used, the lacquer surface to which it is applied is usually made of the same color as the background of the pattern of the veneer.

Here narrow strips of lacquer veneer are being applied directly to strips of wood moulding which have been thinly glue sized and sanded smooth. The strips of lacquer film, separated from the paper backing and softened in cement, are merely laid on the wood and smoothed out with a damp sponge.

Porous Wood Must be Sealed or Sized First

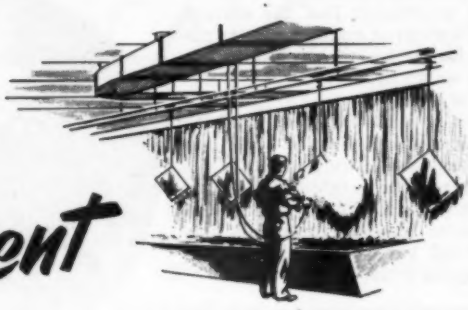
While porous wood surfaces must be sealed and sized with a lacquer to receive the lacquer decal (and all metals must be prime coated) recent developments have made it possible to apply the plastic veneer directly to hardwoods, such as birch and hard maple, which have been merely glue sized; no intermediate lacquer coat is required. This makes it possible to apply the plastic veneer to some articles before assembly — for example, on such items as drawer pulls, thus cutting production costs considerably. A typical example of this is shown in some of the accompanying pictures.

The plastic veneer is applied to long strips of wood moulding which have been thinly glue sized and sanded smooth. Strips of lacquer film are softened in suitable wet cement, laid in place on the wood, and smoothed out with a damp sponge. The film becomes closely adhered to the wood surface as it dries. After the "veneered" strips dry they are cut into drawer pulls at a bandsaw and are fastened to drawer fronts before assembly.

Plastic veneer can be applied to glass also. In small operations the backing paper is removed by soaking, adhesive is applied to the glass and allowed to become tacky; then the film is placed on the glass and squeegeed evenly and gently. On large scale production, as much as 4,500-sq.ft. per hour may be applied.

Fast Efficient Work on Large Scale Production

In large scale operations, a duplex paper is generally used. The solvent is applied and the panel is run between pressure rolls. When the panel emerges the heavy backing paper is stripped off. A thin rice paper or tissue paper, which



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remains, is sponged off with water. On a production line the solvent may be sprayed on manually or automatically as the work moves along on an apron type of conveyor. The veneered panel or flat sheet is then sent through rollers which may be custom built up to 52-in. to accommodate a full sheet. (The rollers may be rotated by hand or power.) The rice paper is removed by water pumped through a fine overhead spray or by going through a water bath.

Here you see lacquer veneered drawer pulls being fastened to the drawer fronts before assembly. The completed cases enter the finishing room with the wooden pulls attached

An effective table designed by Harper Richards, wherein lacquer veneer in marble grain is used. It has a high gloss finish.

A special forming film is provided to apply to flat sheet metal for subsequent shaping in metal forming dies. The film forms with the metal without tearing or marring. Some very deep drawing of predecorated sheet metal is successfully accomplished.

In addition to standard lacquer film, some heat-hardening resinous films which are highly resistant to acid, alcohol, abrasion, impact and moisture are produced. Successful application of the veneer to shower curtains and rubber boots has been made possible by producing a film veneer that stretches while it is being applied. Adhering equally well to steel, magnesium and aluminum, it is also being used on formed solid plastics.

This attractive plastic veneer is widely used by manufacturers of radios, furniture, lamps, caskets, juke boxes, automobiles (for dash boards and interiors) and metal fabricators. Potential uses include decoration of walls for housing, athletic equipment, appliances, va-

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Phosmul is a solvent emulsion containing Phosphoric Acid. It does not appreciably corrode washing machine pumps, walls or conveyor tracks. Accordingly, equipment already in use with alkali and non-acid solvent emulsions can be used to obtain the superior results which Phosmul gives.

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rious housewares, shower curtains and accessories, and thousands of products where a durable decorative finish is desired. Taking its place in industry, we find lacquer and plastic veneers not a substitution but a special process which takes up where many materials leave off.

Earl T. Ball, New Sales Manager for Air-Way

Mr. A. C. Andreasen, President of Air-Way Pump & Equipment Co., 569 W. Van Buren St., Chicago 7, Ill., announces the appointment of Mr. E. T. Ball as Sales Manager for the company. Mr. Ball has a wide knowledge of pneumatic and hydraulic equipment.

193-Year Old Paint Company Honors 552 Employees

America's oldest paint manufacturer and one of the five oldest mercantile establishments in the United States—Devoe & Raynolds Co., Inc., —is observing a new, high record for employee loyalty.

Speaking before a group of home office employees at the company's executive offices, 787 First Ave., New York, Mr. Elliot S. Phillips, president, extolled the loyalty of its many employees, 552 of which show service records ranging from ten to fifty years of employment. Many are second and third generation employees of the company.

Highest honors were paid to Miss Emma L. Brundage, whose employment dates back to 1896, and who is the fourth active member of the Devoe 50 Year Service Club. Miss Brundage is secretary to one of the executives.

American-Marietta Co. Had Profitable Year

Net sales of $19,351,260 are reported by American-Marietta Co. for the year which ended November 30, 1946, an increase of 44% over the 1945 sales of $13,438,656. President Grover M. Hermann states that net profit for the year will be considerably in excess of $1,000,000. Net profit for 1945 was $364,251.52.

Adhesive Products Co., Seattle, manufacturers of glues and resins for the plywood industry, and Pacific Chemical Co., Los Angeles, were acquired by American-Marietta in August, 1946, and are adding to the company's sales and earnings. Additions to the company's paint plants in Kansas City, Seattle, and Kankakee, Ill., are nearing completion. With larger production facilities and greater quantities of raw materials available, sales of more than $30,000,000 are expected in 1947. Sales for the last three months of the fiscal year just ended total $6,197,498.

American-Marietta has 21 stores and distributing units in operation. Stores are about to be opened in Kansas City, Mo., and Charlotte and Greensboro, N. C. Additional stores will be opened and the company expects to have upwards of 35 stores in operation by the end of 1947.

Decal Nameplates Useful on Many Products

With metals still scarce and the need for production speed paramount in the postwar race for markets, many manufacturers are cutting time cost and increasing output by using decalcomania nameplates on their products, according to The Meyercord Co., world's largest makers of decal transfers.

The firm reports that decal nameplates won a large following among industrialists during the war when it was proved that such transfers not only substitute for but improve upon conventional, stamped metal tags. Decal nameplates can be applied by unskilled labor on fast-moving production lines. They save not only the metal of the nameplate but the work of drilling, tapping and mounting as well. In addition, nameplate decals provide an opportunity for the use of color and the reproduction of intricate trademark detail and printing. Simple methods assure lasting adhesion.

Nameplate decals can be made in any size, colors or design, applicable to any known commercial surface, including plastic, rubber or crinkle finish. To help manufacturers specify the correct decal for their products, The Meyercord Co., will supply a handy slide-rule Decal Selector when the request is made on firm letterhead to 5323 W. Lake St., Chicago 44, Ill. The Selector also gives the technique of application for each different kind of decal and different surface, according to requirements and use.

LEAN-UP MAN *Saves Time* AND MONEY

SUN SPIRITS . . . Replaces Three Other Cleaners,

Costs Less, Cleans Better, Lasts 4 to 5 Times as Long

An Eastern manufacturer formerly used gasoline, kerosene and other materials for cleaning motor parts in the reconditioning shop. Dirt was not completely removed, however, and fumes were both a fire-and a health hazard, requiring the installation of hoods.

All troubles were eliminated when Sun Spirits was adopted. Now parts are cleaned more completely. There are no objectionable fumes. The fire hazard is reduced.

Slow evaporation in the cleaning tanks means that Sun Spirits lasts 4 to 5 times as long as carbon tetrachloride, and costs 75% less.

This case is typical of the many plants in which Sun Spirits is used for fast, simple, metal cleaning. There are no dangerous chemicals; no complicated, expensive machines; no need for highly skilled operators. Get in touch with the Sun man for complete data.

SUN OIL COMPANY • ***Philadelphia 3, Pa.***

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SUN
SUNOCO
INDUSTRIAL PRODUCTS

Finishing Materials Review and Forecast

MANY NEW and improved coatings for protecting and decorating various products made of metal, wood, plastic, glass, rubber, leather, fibreboard and fabrics have been developed —but are not available now. In the face of continuing shortages in raw materials and the uncertainty as to just when and how much this situation will improve, most firms are reluctant to publicize some of their prize finishes until they can deliver the goods to present and prospective customers. The Manager of Industrial Sales Promotion for one large company puts it this way:

"The continuing chaotic raw material situation makes it difficult to go on record by publicizing materials, due to possible later embarrassment in being unable to furnish them when they are wanted."

A representative of another firm writes:

"With the shortages of oils, glycerine, titanium and practically everything else that we use in industrial finishes, it is beyond me to predict what we might be able to offer your readers—our customers—for 1947."

An executive in still another establishment says:

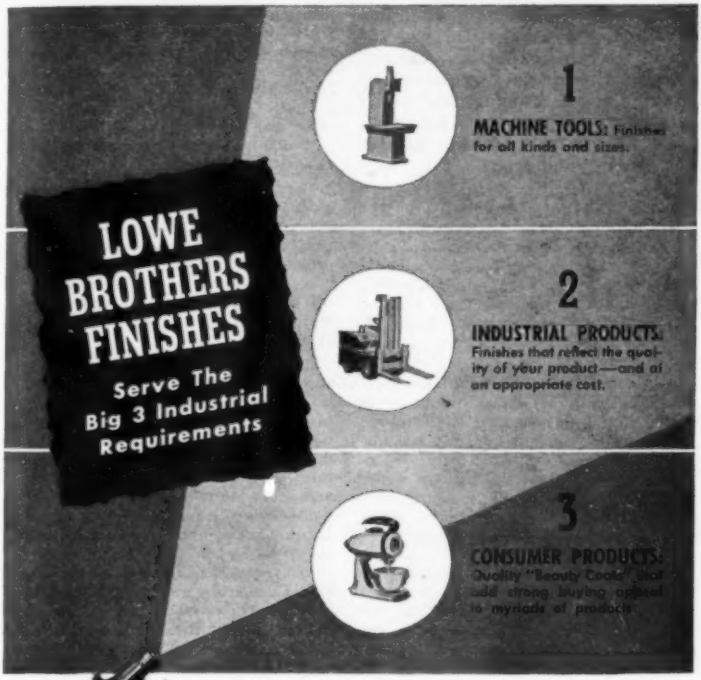
"Finishing material manufacturers have the personnel and equipment to go ahead rapidly as soon as basic conditions rectify themselves. The industry was held down all during the war, by regulations, price ceilings and shortages, but now finds itself handicapped by high costs and lack of basic raw materials. In spite of all this, the industry—one of the most ingenious in the land—will find ways and means to finish all the manufactured products that require painting."

The foregoing explains why the Review and Forecast features in this January issue of INDUSTRIAL FINISHING are somewhat less pretentious than in former years. It takes time for a great nation to get over the upsetting effects of a large scale war, but as the scars and dislocations caused by war are pushed farther into the background, corrective readjustments will eventually become effective and more of the things which are needed and wanted will be available in adequate quantities.

Many of the materials listed in this Review are not new. One manufacturer stated quite frankly that the products described in his Review Release were not new and did not represent outstanding products of his company. Raw materials for making certain high quality coatings are either not available or they are so scarce that in many cases substitutes of inferior quality must be used.

Metal Finishes

Coatings for metal include practically everything one could reasonably ask for. There are smooth and wrinkle finishes in all colors; hammered-effect finishes in all colors; air dry and bake mate-


LOWE BROTHERS FINISHES
Serve The Big 3 Industrial Requirements
1
MACHINE TOOLS: Finishes for all kinds and sizes.
2
INDUSTRIAL PRODUCTS: Finishes that reflect the quality of your product—and at an appropriate cost.
3
CONSUMER PRODUCTS: Quality "Beauty Coats" that add strong buying appeal to myriads of products.

Lowe Brothers Finishes are the product of intensive and continuing research in both the laboratory and the field. This research has enabled us, over the years, to constantly develop finishes which are in keeping with the quality of your product, at a cost you can afford, and which are adaptable to your finishing system.

Lowe Brothers experience in supplying finishes to makers of a variety of machine tools, machinery, equipment and consumer products is available, without obligation, in solving *your* finishing problems.

INDUSTRIAL SALES, THE LOWE BROTHERS COMPANY, Dayton, Ohio

Lowe Brothers
FINISHES *for Industry*

rials; coatings that will withstand severe bends in the forming of sheet metal products; coatings that are resistant to moisture, heat, alcohol, fungus and mild solutions of certain chemicals; also finishes suitable for use on both metal and wood.

Dykast Lacquer Enamels are applied directly to zinc and aluminum die castings without any pretreatment of the metal. They are available in most colors, in either air drying or baking grades, and are applied by spraying or dipping.—Maas & Waldstein.

Lacquers for Die Castings—Solid covering, sales pulling, high gloss colors in fast air-drying or infra-red force drying lacquer permit an appealing choice for effectively decorrating and protecting various types of properly treated die castings used for toys, fan housings, and other similar products.—The Glidden Co.

High-Solids Vinylite Finishes—A versatile group of technical coatings now available to industry. The resistance of Vinylite plastics and the adhesion, depth, gloss, and workability of synthetics are combined in this new series.

High-Solids Vinylites, both in clear and brilliant colors, are prescription compounded and an be applied by any method of finishing, either before or after fabrication. The system is applicable to the complete family of metals, both ferrous and non-ferrous. These materials are adaptable to baking, and produce brilliant finishes that have outstanding durability on interior and exterior surfaces.

Vinylite is a trade mark of Bakelite Corp., and its use is sanctioned by the copyright owner. — Watson-Standard Co.

Duco Metalli-Chrome Automobile Lacquers—Surfaces coated with these rich lustrous colors present to the eye a startling color variation as the lighting alters or the angle of vision shifts. For example, a definitely reddish-brown changes all the way to an equally definite gray-brown. Burnished gold and shades of bronze are in the gamut of these colors. What appears to be a deep black in subdued light becomes a warm gunmetal in the sun.

Various chemical developments have helped contribute to the quality and appearance of these new Metalli-Chrome finishes—for example, the preparation of extremely fine particles of pigments and a process of transferring these water-wet pigments to lacquer vehicles without any intermediate drying.

The lustrous depth that characterizes the Metalli-Chrome lacquers is further enhanced by the presence, in the film, of small particles of metallic aluminum which act as millions of minute mirrors to bounce the light around inside the finish—and thus diffuse it—before reflecting it back to the eye. While there is nothing new about employing aluminum flakes in this manner in so-called metallic coatings, their function as mirrors was previously limited because opaque pigmentation prevented all but the flakes near the top surface of the film from serving their purpose.—E. I. duPont de Nemours & Co., Inc.

High-Heat Baking Synthetic Enamel—Especially suitable for roller coat application on such articles as metal Venetian blinds of all kinds, inluding aluminum and steel.

This type of synthetic finish has an extremely high, sharp lustre, maximum smooth flow and maintains its color, even in white and the lightest pastel shades, at a heat of 530°F., without any discoloration. For roller coating it is reduced approximately five parts synthetic enamel to one part special synthetic reducer. It bakes absolutely dry and hard in the remarkably quick time of 30 seconds at 530°F.

The finished surface is smooth, hard, lustrous and flexible. It will not crack, and it withstands a se-

gloss, semi-gloss or flat...

these are not indefinite terms, but represent exact degrees of reflectivity.

There are many grades in between, and they can all be measured exactly by the above machine, which leaves nothing to guess work.

STILLE-YOUNG materials can be supplied to give you the exact type of finish you need.

S-Y

STILLE-YOUNG

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LACQUERS • FILLERS • STAINS • ENAMELS • PAINTS

vere bending test. Under actual working conditions on a roller coat application, the coverage was 930-sq.-ft. per gallon.—Monroe Sander Corp.

Hammertone — resembles beaten metal. These finishes, although giving the illusion of having a rough surface, are smooth to the touch and are designed for beauty and rough handling.—Maas & Waldstein.

Motistone Enamels are formulated to produce a hammered effect in a single spray coat application. This type of finish is suggested where low cost is required.—Maas & Waldstein Co.

One Coat Hammered Metal Finish —A practical coating material which can be applied in the conventional manner, using standard spray equipment. Supplied in various colors for both air-dry and bake, as Series 8700 and 8800 respectively.—Randolph Finishing Products Co.

Metalgo (Hammered metal effect) —A hard lustrous synthetic baking enamel which gives the effect of hammered metal. It comes in a variety of attractive shades. The finished surface is perfectly smooth but it creates the illusion of hammered, depressed indentations combined with great depth and glow of finish.

The material is applied by spray gun at viscosity as received. Fairly low air pressure should be used, and a thin coat should be applied to get the best effect. Adhesion on all types of metal surfaces is excellent, combined with extreme surface hardness.

The baking schedule recommended is 250°F. for 30 minutes, or 9 minutes under infra-red lamps at a distance of 15-in.—The Monroe Sander Corp.

Codur Baking Enamels—Improved quick-baking finishes (alkyd modified urea formaldehyde type) which produces exceedingly hard-wearing surfaces. They have good adhesion to most metals and are used on such

"I hear that some affairs out there even cause the finish to blush."

products as water tanks, air conditioning equipment, metal cabinets, electronic products, and many other metal parts requiring a tough, durable surface. Codur enamels impart corrosion resistance to the product over which they are applied.

Other types of Codur enamels (for example, modified alkyd urea melamine formaldehyde type) are available to comply with baking schedules that require a medium temperature. This type of finish, in addition to being used on metal products, is used on molded Bakelite type (phenol formaldehyde) plastic radio cabinets. —Maas & Waldstein Co.

Flashdur—A flash-curing synthetic enamel (extremely fast baking finish) used by manufacturers of such metal products as instruments, lipstick cases, lighters, cigarette cases, etc. Available in clear, black, white and most colors.—Maas & Waldstein Co.

Lavax Wrinkle Finishes provide a distinctive type of finish that combines beauty and great durability. They can be used satisfatorily over almost any type of surface—steel,

(Continued on page 56)

tory of Synstain

Product of Chadeloid Research Laboratory, Synstain Combination Stain-Fillers are Modern Sensation . . .

tain wood stains and combination stain-rs are tested products of the Chadeloid poration research laboratories, recently in-uced to the woodfinishing industry.

roperties of Synstain products are of tre-dous importance to wood finishers be-e of the production economies which may btained by using them, and because of the tionally luxurious finishes which Syn-produces.

DISTRIBUTION AND AVAILABILITY

e than 75 leading manufacturers of wood-hing products are licensed to produce and Synstain under the Chadeloid patents. It robable that your favorite supplier is g the CHADELOID-AUTHORIZED ufacturers and distributors.

e wide licensing of Synstain production distribution makes it possible for every finisher to obtain Synstain quickly. It is blic service to you by Chadeloid Corpora- to make it possible for you to obtain highest quality finishing materials on the et from one or more sources known to . . . in whom you have confidence.

SYNSTAIN QUALITIES

ain wood stains are based on the Chade- patented processes and formulae (other cations pending) providing non-grain-ng, non-bleeding, color-true stains which ow being used successfully and economi- by leading manufacturers in the wood-hing industry.

e sensational Synstain combination stain-s employ the same formulae and have the ical fine qualities.

In addition, Synstain combination stain-fillers have these most important new qualities:

1. By eliminating two conventional steps in the finishing operation (body-staining, glazing and filling are combined in one operation; except in unusual cases, sap-staining is also eliminated) production time and material savings averaging 25% are possible.
2. Tested components of Synstain combination stain-fillers enable the finisher to obtain finer finishes in production work. Better penetration, smoother filling and uniform coloring give the finisher a varnish or lacquer base of superior quality. Experts who have used these products, and a number of authorities who have seen the finished products, unanimously agree on the superlative values which Synstain produces.

GENERAL INFORMATION

Synstain is applied in the usual manner. There are no application tricks, no special equipment required; Synstain is an unusual product in its results but wholly conventional in use. Both the stain and the combination stain-filler may be brushed, sprayed or dipped.

Synstain air-dries in four hours. It may be force-dried in 70-90 minutes at 120° to take the sealer coat. It costs no more than ordinary materials. Synstain . . . developed by research . . . has been production-proven!

Get Synstain samples from your CHADELOID-AUTHORIZED supplier today!

CHADELOID CORPORATION
37 North Perry Street . . . Dayton 2, Ohio

aluminum, cast iron, or plastic. They bake out to a hard, tough, durable film, uniform and distinctive in pattern, with a velvet-like sheen.

Lighter shades can be baked at temperatures not to exceed 225°F. for one to two hours; the darker color can be baked at 250° to 300°F. for one to two hours.

Lavax Wrinkle Finishes are supplied ready for spray application. When reduction is necessary, Lavax Wrinkle Thinner can be added according to the maker's direction.—Pittsburgh Plate Glass Co.

Duart Wrinkle Enamels are again available in pre-war quality, with four different textures and a variety of baking schedules. These enamels are being used as primer coats under lustrous metallic lacquers, and are recommended for use on numerous products, such as air conditioning equipment, heaters, instrument panels, and other metal products.—Maas & Waldstein Co.

Britelume Enamels—Brilliant aluminum finishes that have been developed recently for use on most metals. They are applied by spraying and are resistant to heat and chemicals.—Maas & Waldstein Co.

Myratec Industrial Finish—A double duty product for production line finishing of all types of manufactured articles, and for "Color-Engineering" of shop machinery and shop walls. It dries free of tack quickly; covers smooth metal surfaces in only one coat; produces mirror-like high-gloss brilliant colors; excellent for pumps, printing presses, metal lockers, outdoor wooden furniture, stamped and cast metal fittings, machinery, etc.

"Color-Engineering," a system for industrial plant modernization, which includes the sight-saving painting of machinery and service areas, utilizes the Myratec industrial finishing in colors that have been especially selected for this purpose by a leading industrial decorator on the West Coast. The finish is not softened by oils and lubricants. Its extra hard glossy surface permits easy cleaning with the usual solvent-dipped rags. It keeps machinery looking new longer because it does not readily break open or chip off when a tool accidently falls on it.—W. P. Fuller & Co. (San Francisco).

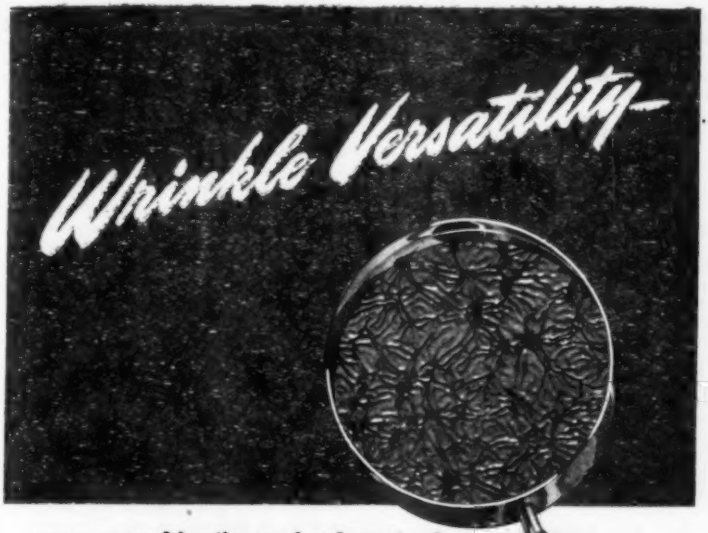
Water White Metal Lacquer—For special metals such as silver, brass, copper, polished aluminum, etc., No. 24339 Pale Clear Metal Finishing Lacquer preserves the color and brilliance of the surface and prevents it from tarnishing. It affords a high degree of protection in service. It is used effectively on fan blades, silverware, hardware, and for various other purposes.—The Glidden Co.

Marinehide Exterior Gloss Enamel—Exceptionally high-grade and durable quick-drying exterior enamels; easy to apply; have good flow to a smooth finish; set quickly and dry hard overnight with resistance to chalking, marring and abrasion; may be used on any exterior or interior surface where a high gloss durable finish with maximum color retention is desired, respond well to cleaning operations.

On new metal work or where bare metal is exposed or paint removed, the surface should be primed with a selected Marinehide metal primer. After 24 hours for drying, follow with a single coat of exterior Gloss enamel. For especially fine work, apply an additional coat after overnight drying.

Gray undercoater may be used over primed metal surfaces or sealed wood after overnight drying. No undercoater is necessary on such standing surfaces as deckhouses, funnels, ventilators, etc. One or two finish coats of exterior enamel may be applied over the gray undercoater after three to four hours, allowing overnight drying between finish coats if two coats are applied.—Pittsburgh Plate Glass Co.

Dulac Clear Universal Lacquer No. 462—Used in many industries where one finish is required for use on most metals. This clear universal lacquer is a water white finish which imparts corrosion and perspiration re-



means combinations of colors, too!

Wrinkle coatings are available in any colors you want—in primary colors, tints, pastels and *combination* effects for unusual eye appeal. Wrinkle versatility doesn't stop there. Users find, for example, that Wrinkle is used on *flexible* materials with the same success as on metal or similar surfaces.

Wrinkle is economical to use, requiring only one top coat. It covers imperfections in castings and weldments without extensive clean-up necessary with smooth finishes. Wrinkle protects while it enhances the beauty of coated surfaces. It doesn't chip or peel and is extremely durable even under adverse conditions.

Approximately 200 leading paint and varnish plants which manufacture Wrinkle under our license can supply you with Wrinkle coatings in a variety of textures, patterns, and colors to suit your needs.

Write for "New Wrinkles in Finishing," a bi-monthly report on developments in the Wrinkle field.

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THE "STANDARD ANSWER" TO VARIED FINISHING NEEDS

sistance to the base metal and also protects the metal against heat, cold, weather, and stains. Its adhesion is good to such metals as steel, aluminum, silver, brass, copper, magnesium, bronze, cadmium and zinc. —Maas & Waldstein Co.

Pittsburgh Synthetic Metal Lacquer is a first-line high-quality metal lacquer for direct application to clean metal surfaces. It provides exceptionally good toughness, adhesion and durability. This synthetic base lacquer is suitable for indoor or outdoor use and it is suggested for use on high quality hardware, tools, machinery, metal furniture, store and office equipment, etc. The same high quality metal lacquer is available in high gloss or semi-gloss—and in a wide range of colors.

Where better appearance is required over rough metal, a coat of gray surfacer is recommended.—Pittsburgh Plate Glass Co.

No. 938 Black Welding Primer—Unlike many paint type materials used for similar purposes, this primer is a good electrical conductor. Because of its low electrical resistence, it prolongs the life of welding points, and contributes to strong welds. It is versatile in that welding may be done even while the paint film is still wet, or after it has been air-dried or baked. It has good initial and permanent adhesion and toughness on steel, and is resistant to water and acids. It is being used in volume for automotive and miscellaneous sheet metal where anti-corrosive qualities are necessary before and after welding.—The Glidden Co.

Coprene, which is formulated with a modified synthetic rubber base, is noted for its resistance to chemicals, heat, cold, and water. It has good adhesion on metals, wood, or plastics, and air dries with the speed of lacquer. It hardens throughout to a tough finish much like a baked enamel. Coprene enamels are available as plain or metallic finishes, in practically every color, as either air drying or baking finishes, and are applied with the spray or dip method. —Maas & Waldstein Co.

Synalac (sign-a-lac)—In the west this is a brand name that includes lacquer products necessary for the fast production finishing of all items made of wood or metal. These lacquers are particularly suited to spray or dip finishing such production items as furniture, store fixtures, toys, wood, metal or plaster ornaments, cabinets, electrical fixtures, garden tools, patterns, display panels, metal castings, and similar industrial items.

Synalac clear and pigmented industrial lacquers are high-quality, all-purpose nitrocellulose lacquers, fortified with synthetic resins which produce a fast-drying, high-gloss durable finish. They represent the latest development in the technical field of combining synthetic resins and nitrocellulose, giving the quick-drying advantage of lacquer plus the added durability and depth of finish with the newer synthetic resins.

The Synalac line offers a satisfactory range of lacquer sheens—gloss, semi-gloss and flat. Where

(Continued on page 89)

SPRAYING COLOR THROUGH FORM-FITTING MASKS

BY P. C. BARDIN

HOW DO they apply those clean-cut, sharply defined color enamels in sunken or on raised letters, dials, emblems and various decorative or utility markings which we see on household appliances, automobiles and many other products? These articles are all made and finished by the thousands, on a fast production schedule, therefore hand painting would be out of the question. The quick offhand answer is that, in most cases, these colors

are sprayed through cut-outs in masks or shields which fit closely over the area to be painted.

Electro-Formed Masks for Decorative Spray Painting

In order to find out something more specific about the masks commonly used for this work, I made arrangements to see Mr. H. E. MacArthur, Secretary of Conforming Matrix Corp. at Toledo, Ohio.

This picture shows the raised emblem (cast in pearl gray plastic) centered in the horn button for an automobile. Colors of red, blue, gold and silver were sprayed through form-fitting masks. After being painted, the entire face of the decorated button was "sealed in" under a smooth sheet of clear plastic.

This company designs and makes spray painting masks, templates and shields for several firms that manufacture nationally known products. "Electro-formed masks for the spray painting decoration of metal and plastic parts", is descriptive of the firm's products.

The conforming metal mask is a real help in spray painting certain parts of decorative name plates, designs and emblems for metal and plastic products. This work is accomplished without any subsequent wiping or buffing of adjoining areas to remove overspray or paint "fog". By means of special bridging the "loose" centers of letters and numbers, as well as intricate details of design, are held in place without the use of those objectionable "ties" that are characteristic of stencils made of flat paper or sheet metal.

How Those Form-Fitting Masks are Made

In order that you may better understand the precision of these masks I will explain briefly how they are formed. An actual casting or plastic part is mounted on a base. Then it is surrounded by a thin flat copper frame—or, in cases where exceptional strength is required, a brass or steel frame. A "releaser" solution is applied only to that area of the casting which is to be masked.

The complete mounting is then placed in a tank where, by electrolysis, copper is deposited over the entire mounting (frame included) to a thickness of about 3/32-in. This operation is known as "electro-forming". Upon removal, the base and casting are separated from the shell of the deposited copper through the medium of the releaser solution. The resulting shell, with the frame, forms the rough mask which conforms in every detail to the contour of the casting.

Jewelers' saws and other tools are used to cut out and smooth the letters or "open" parts of intricate designs. The impressions in the

ET BETTER ACQUAINTED WITH

Vedoc

a better baked finish

for **WASHER BASES**

HARACTERISTICS:

igh resistance to soap, alkali and moisture . perfect matching of color with Porcelain amel tubs . . . complete color stability . . . ng wearing qualities (is chip-proof and actically impervious to scratches) . . . sily kept clean and sanitary . . . maximum otection against rust.

PPLICATION:

nly one coat is needed. Finish is sprayed on.

AKING TIME:

0 minutes at 300° F. . . . 7 minutes with infrared. (Optional schedules are ailable.)

All Vedoc finishes are developed for a specific use, then slightly varied to best fit each customer's production setup. Write today for more information about these "better finishes". Also ask for your copy of the new booklet, *A Review of Product Finishing with Organic Coatings.*

LIQUID PLASTICS DIVISION
FERRO ENAMEL CORPORATION
CLEVELAND 5, OHIO

shell mask are followed and tooled in such a way that a projecting lip of metal remains around each opening which is cut into the mask. In the completed mask this metal lip fits down into the depressed area of the part or product to be decorated. This slightly projecting lip, combined with the precision fit of the mask to the product, prevents overspray or fogging of sprayed color on adjoining surfaces.

To better illustrate what is meant by the slightly projecting metal lip, notice the close-up (Fig. 1) of the inside of a mask, showing some of the letters in reverse. If color is desired on the side walls of sunken letters or a design, the lip around the opening of the mask is made proportionally shorter, thereby exposing these surfaces to the sprayed enamel. This lip is very important to the success of the mask.

Slender Arched Bridges Support Loose Centers

The outside or spraying side of a typical mask is shown at the beginning of this article. Notice the slender arched bridges which firmly hold the "loose" centers of the letters O, A, R and D in place. Also, notice the reinforcing bridge which stabilizes the long projecting center section of the capital letter L. Construction of these arched bridges permits perfect forming of the letter on the "Leonard" plastic name plate which is also shown at the beginning of this article.

Spray masks may be divided into three groups: 1) those that form the design; 2) those that protect specific areas from surrounding painted backgrounds; and 3) the outline mask which allows color to be sprayed over a limited area, to be wiped off the high surfaces later, with the color remaining in the shallow depressed areas.

The mask illustrated in this article is a sample of the first type. It forms the design. The plastic horn button in four colors (Fig. 2) is also produced with four masks of this type.

Different Types of Spraying Masks

The second type — a protective mask — is similarly formed except that the special letters or design are solid and the surrounding background is cut away. This type of mask is used on castings or molded plastic products in which the letters or design are raised and are to remain free of paint on the finished piece.

Reverse side of part of spray mask shown at beginning of this article. Notice the thin lip of metal that projects around each letter. This extends part way down along the sides of sunken letters to prevent the sprayed color from "fogging" or "leaking" around edges of whatever letters or designs are being spray painted.

WHAT'S THE

ONE BEST FINISH

FOR YOUR PRODUCT?

. . . This Check Chart Helps You Find It!

WHEN A LACQUER'S properties match the service requirements—point for point—that's the right one to choose! With this handy Unichrome check chart, it's easy to make a quick comparison and a reliable choice—in a lacquer you *know* will be right because it checks (very good) and double-checks (excellent) with the requirements.

And you can be sure of getting top quality in *any* Unichrome lacquer you choose. Laboratory-controlled manufacture and severe tests are your assurance that every coating will live up to its charted performance. Let us send you full size copies of the chart. Write your nearest Unichrome office.

CONSIDER THIS STEEL ASH TRAY, for example. It calls for a pigmented lacquer of exceptional hardness, gloss and adherence—which must resist burning, abrasion, perspiration and washing. The check chart reveals that the best finish for this job is B-124, because it checks (very good) and double-checks (excellent) with the requirements.

UNICHROME

PROCESSES AND MATERIALS FOR SURFACES THAT SURVIVE

Chromium Plating • Porous Chromium • Unichrome* Copper • Unichrome Lacquers • Ucilon* Protective Coatings • Unichrome Stop-Off Lacquers and Compounds • Unichrome Dips • Unichrome Rack Coatings • Anozinc* Compounds • Unichrome Strip

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The outlining mask is used to paint a limited area surrounding very small or shallow letters, numbers or a design. After the spraying is completed, a wiping operation removes paint from the high spots but allows it to remain in the recessed letters or design. Typical examples of pieces finished with an outline mask are the plastic oven - regulator - buttons on gas stoves — those buttons that show degrees of temperature, direction-to-turn lines, arrows, etc.; also chromium-plated knobs in motor cars to indicate cigarette lighters, throttle, window lifts, etc.

Masks can be fitted with convenient handles — and holders to which they are fastened with spring hinges — or they may be hinged to production line fixtures.

Technique of Using and Cleaning Spray Masks

Naturally, the viscosity and drying characteristics of the color material being sprayed must be carefully controlled in this work. It must adhere permanently to the surface to which it is applied, must set quickly, cover perfectly and wear well during service. It must be sprayed skillfully to produce a film of reasonably uniform thickness. The air pressure used on spray guns for spraying color through these cut-out masks ranges from 15 to 45-lbs. per square inch, depending upon the type and size of opening in the mask.

In some work, depending upon various conditions, the spraying mask or shield can be used as many as 12 or 15 times before it needs to be cleaned to remove the overspray that accumulates on its spraying side. In other cases, a mask will have to be cleaned more often. Obviously, masks for small or intricate openings fill up faster and require more frequent cleaning than those with larger and less intricate openings. On continuous production lines, each user of masks generally has three sets of masks. While one is in use, the others are being cleaned.

These masks are cleaned by immersing them in a container of solvent. Solvent action softens the overspray paint so that it can be easily wiped off. Then the mask is held in mid air and blown clean and dry with an air gun.

Where the Fit Isn't Perfect; What to do About it

Seldom is any difficulty experienced in making the masks fit the work in production perfectly — that is, so long as all castings are made from the same set of dies. If more than one set of dies is used to form castings, a slight difference may occur, due to slight differences in the dies. In such cases it may be necessary to segregate the products and have one or more additional sets of masks made and used. A difference of as little as 1/64-in. in contour or location of a letter or design on a surface is sufficient to prevent the spraying mask from conforming closely to the molded contour; and of course, this may prevent the metal lip from fitting into the depressed area properly.

Due to dimensional instability in many plastics, the masks for large plastic areas may have to be divided into two or more sections to make them fit perfectly. In such cases each section of the mask is made with a shiplap joint along the edge where it contacts the adjoining section. By this means it is possible to make the mask fit the work quickly and perfectly.

Synthetic Enamel Versus Lacquer

FOR FINISHING COMMERCIAL BODIES

Writing on the basis of his own experience, this finishing foreman for a firm that makes fine commercial bodies, tells about the relative merits of lacquer and synthetic enamel for use on trucks, buses, etc.

by DALE W. MUSSELMAN

CHANGES AND improvements in protective coatings for the automotive industry have kept step with changes in construction material and production methods. Lacquer, with its fast drying properties, has made faster finishing schedules possible.

Following the advent of lacquer came synthetic enamels of both air drying and baking types — combining the features of speed and economy in finishing. However, synthetics have not pushed lacquer from the picture. While synthetics have assumed an important place in the finishing trades, the constant improvements have kept lacquer coatings on a par with synthetics, with a great demand for both.

Manufacturers now have a choice of two great finishes, either of which — in the majority of cases — can be used successfully if cor-

Specifications called for Omaha Orange as body color, with black band on both sides.

rectly engineered into the finishing system. Naturally, there are some cases where lacquer has drawbacks as a finishing material, and vice versa.

In the custom truck body field, with which I am especially familiar, either of these finishes can be used successfully. To help the automotive painter or his boss or the customer make an intelligent choice, I believe that it might be timely to summarize the advantages and disadvantages of each finishing material as applied to individual cases.

Characteristics of Lacquer as a Finish for Auto Bodies

Possibly the most important property of lacquer is its fast hard-drying qualities. Lacquer is sprayed at a much lower viscosity than synthetic enamel, and usually the lacquer coating receives a final rubbing with compound. The resulting finish has a smooth, mirror-like appearance. Another item, due to the faster speed of lacquer drying, is the ease of maintaining a cleaner finish. Since lacquer coatings dry almost as fast as they are applied, they do not hold floating particles of dirt, bugs, etc., as do the slower-drying synthetic films.

Imperfections in the lacquer finish (such as sags, etc.) or damaged spots can be repaired much more quickly than in enamel. Usually the sanding can be done within an hour, a similar defect in air-drying synthetics should wait at least eight hours. Jobs of different colors can also be sprayed fairly close to each other, without harm due to wet mist settling over either surface. As an example of what can be accomplished with lacquer, a red job may be sprayed in the same room with a white finished job. All that is necessary to remove the red spray from the white work is to wipe it off with a clean, soft cloth. With synthetic enamels, this would be impossible.

As another example of what can be done with lacquer, we will consider the problem of a small, 2-tone panel body, received in the paint department in the early morning. This job gets a prime coating, the necessary surfacing, and both color coats the same day, without force-drying facilities.

On the other side of the ledger, a lacquer job requires more actual work than a synthetic enamel job. A greater number of coats are necessary to build up an adequate film thickness and opacity, therefore considerably more spraying must be done. This, in turn, requires a greater amount of labor and material. Small imperfections show up much more conspicuously under lacquer, therefore more careful surfacing and more tedious sanding are required. Finally, a compounding operation is generally necessary to complete the job and bring out the gloss. This operation is not necessary with synthetic enamels.

Synthetic Enamel; Fewer Coats; Longer Drying; No Rubbing

Economy is the slogan for synthetic enamels — c o r r e c t film thickness, opacity of colors, and high gloss, with at least half the number of coats necessary compared with lacquer enamels. There is therefore a saving in labor and materials. Less expensive solvents are used with synthetics, and the final compounding is not necessary.

Using, as an example of comparison, a gallon of white lacquer and a gallon of white synthetic enamel. The lacquer thinned for spraying — using one gallon of

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lacquer to two gallons of thinner — will provide three gallons of material. The synthetic enamel — using one gallon of enamel to ¼-gallon of thinner — will provide 1¼ gallons or five quarts of material. It will take approximately all the thinned lacquer to cover solidly the same amount of surface that the thinned synthetic enamel will cover. Three coats of the enamel will make as opaque a surface as six coats of lacquer.

Desirable for Synthetic Enamel: Clean Room and Force Drying

Looking at the adverse side of the synthetic picture, we find that it also has certain weaknesses. A wet coat of synthetic enamel is a great dirt catcher and acts as a "magnet" to flying dust particles in the finishing room. A fresh coat of enamel remains "wet" for a much greater length of time than lacquer, which is dust-free, almost in a few seconds after application.

This means that when synthetic enamel is used the finishing room must be as dust-free as possible during application of the coatings; and also during the necessary drying period. To reach a drying time comparable to lacquer, an efficient force-drying system can be installed and special baking synthetic enamels can be used. Mistakes or accidents, such as sags, dry spray, or excessive dirt, cause much more trouble and take a longer time to repair when synthetic enamel is being used. Spot repair work with synthetic enamel is much more difficult than with lacquer. In fact, to repair a comparatively small finish defect, it is often necessary to refinish an entire panel. This repair must also wait until the job is thoroughly dry before an attempt can be made to sand and repaint it.

Other Consideration Such as Masking; Exhaust System

Lacquer can be masked with masking tape, usually within an hour after application, but synthetic enamel must be completely dry and tack-free (which usually means eight hours of air-drying time) or the masking tape will badly mark the finish.

A much more efficient exhaust system is needed to remove the fumes and exhaust spray from synthetic enamel, because the over-spray is wet and sticky; and if not removed this over-spray will settle on the spray operator or any other object within reach of the spraying operation. Lacquer spray is dry before it can settle on the operator or close objects, and the dry dust can be easily removed by air pressure or a soft cloth.

Which Finish to Use . . . When, Why and How

As a summary, therefore, we reach the conclusion that a company with limited finishing room space, a fairly high production of small or medium sized units, and adequate labor facilities, could use lacquer to a very good advantage. A quick turnover in paint jobs would be a necessity in such a place and, under the above conditions, this could be accomplished effectively with lacquer.

On the other hand, a shop that has considerable floor space and individual finishing rooms where painted jobs can remain until dry, could use synthetic enamel finishes and might prefer them. Where finishing space would allow the installation of an efficient, force-drying system, baking synthetics would be a wise choice. Synthetic enamel is more applicable than

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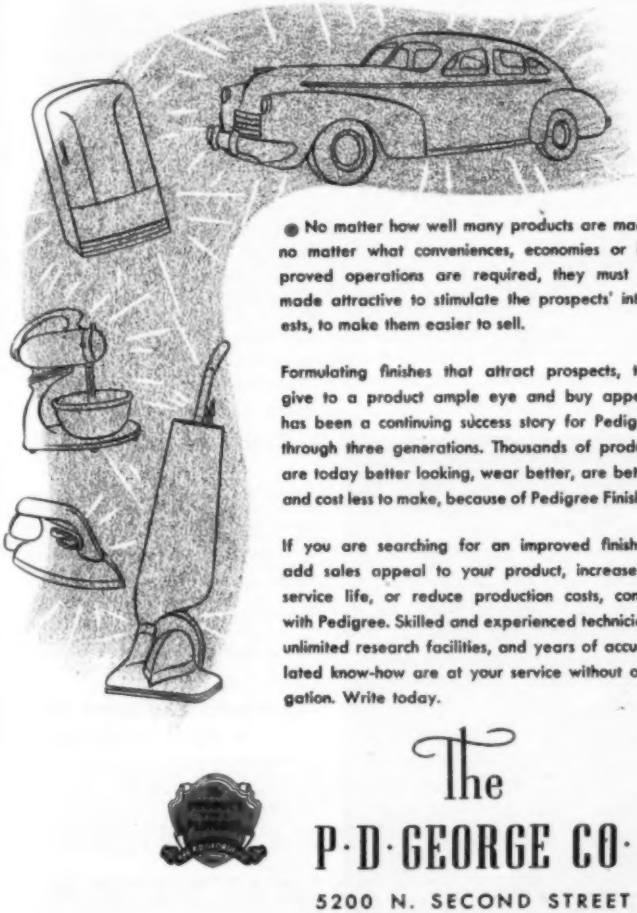

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lacquer for use on extremely large units, where a fine finish is necessary, because of the time and material problem involved.

Where it is Advantageous to Combine the two Finishes

In some establishments a happy medium may be reached by combining the two finishes. This combination works especially well where two or more colors are involved. As an illustration, the photograph of the Allied van at the beginning of this article is a concrete example. Allied paint specifications called for orange body color, and black belt line. The unit was cleaned, primed and surfaced in one day. A synthetic primer surfacer was used. On the following day, black lacquer was applied to the belt line. Soon afterward the belt line was masked and the body color of orange synthetic enamel was applied. The element of quick masking saved a day's wait in completing the unit. This idea can be applied to other combinations.

Cab interiors on vans or conventional cabs can be painted easier with lacquer, as masking operations are simpler than with synthetic enamel and, because of lacquer's fast drying properties, sticking doors are practically eliminated. Spot work, quick fender repairs, etc., on custom truck bodies, can be greatly speeded up by the use of lacquer.

The accompanying picture of the van cab interior is an illustration of lacquer work. All metal parts are coated with dark brown lacquer, with the paneling finished natural in clear lacquer. The floor is coated with synthetic black brushing enamel.

Van's cab interior is finished in lacquer.

C. H. Lanham, Now V. P. of Robertson Co., Inc.

Robertson Co., Inc., Louisville, Ky., manufacturer of wood and metal finishes, announces the election of Mr. Charles H. Lanham as Vice President in charge of Research and Production.

Mr. Lanham, a native of Kentucky, has been active in the industrial coating field for the past 16 years, and will continue his future activities supervising these two departments of the Robertson Co., Inc.

Corrosion Engineers to Meet in April in Chicago

The National Association of Corrosion Engineers will hold its annual convention in the Palmer House, Chicago, Ill., on April 7, 8, 9 and 10, 1947.

In addition to the technical sessions, N. A. C. E. is sponsoring 100 exhibits on corrosion-inhibiting products and supplies.

Information concerning the convention can be obtained from Elton Sterrett, Executive Secretary of the National Association of Corrosion Engineers, 905 Southern Standard Bldg., Houston 2, Texas.

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FINISHING AIRPLANE INTERIORS WITH

FLOCK

Preparation of surfaces to receive flock; selection and use of spray equipment and adhesives; blending or mixing colors; masking for two-color jobs; planning for and making repairs to damaged places.

By H. H. MENEFEE

"CLOTH FINISH sprayed on interior of airplanes at local plant." This was the heading of a rather interesting news article in one of our leading daily papers (in Dallas, Texas). The writer of the article intimated that the finish was something new and a result of wartime research—but those of us in the finishing field realize that it was only the application of a flock finish to the interior of airplanes, which had prompted the interesting news article.

The application of flock to interiors of airplanes is one of the more recent uses of this versatile finish. Flock is made up of minute fibers cut to a specified length, which may be as long as ¼-in. Flock is available in different materials; for example, cotton, which is a pulverized form of cotton which, when applied, gives a smooth finish resembling a piece of good felt; wool, which has a little more relief to the surface than the cotton material; and rayon, obtainable in various lengths which determine the nap that the finish will have when applied.

Rayon flock has a slight sheen and also presents a definite nap. As a result it is a popular flock material to use for a rich appearance. Flock is also a good sound-absorbent material, with rayon flock being perhaps the best in this respect. This feature alone makes flock finishes popular for use in large passenger planes.

Flock in Colors for Any Color Scheme

Flock is obtainable in a wide range of colors, therefore the designer is not restricted in the selection of any desirable color scheme. The in-between shades can be produced by mixing and blending the flock in the same manner as you would mix paints.

Flock covers from 75 to 125-sq.ft. per pound, depending on the amount of "build" desired and the type of flock used. Rayon flock is quite transparent, whereas cotton flock is rather opaque. To obtain maximum coverage and at the same time get a good nap, the rayon flock should be mixed with

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about 25% cotton flock to give the needed opacity. Of course, the same color must be used in each type of flock.

It is necessary to be familiar with the pecularities of flock and know just how it works and acts to be able to apply a good flock finish. It is also necessary to know what type of binder to use, how to prepare the surface, and how to apply the flock. A sample try-out on a small surface, using the same flock gun that is to be employed in production, will give a fair example of the work that can be done. There are several things to keep in mind when spraying flock. Some of these are: Be sure that flock is well mixed if more than one color has been blended, and break up any small balls of flock that might be in the container before spraying.

Equipment for Spraying Flock Inside Airplanes

The choice of flock spray guns and auxiliary equipment will also require some thought and consideration. The type of equipment to be used in finishing the interiors of airplanes will vary according to whether the finishing is done on a production line, where the primary consideration is speed over color combinations, blends or trick effects; or whether it is a custom job or modification job. These two general types of jobs call for different types of equipment.

Production line work must be set up to use a production flock gun which is similar to a regular paint spray gun—except that flock is in the large pot instead of paint; flock is fed into the gun through a hose and is fanned out at the nozzle, very much like paint is atomized. Such equipment is always furnished with complete instructions on how to operate it properly. However, experience is the best teacher of the secret of getting the proper balance between air in the flock container and air at the spray gun nozzle. The presence of moisture in the compressed air line is about the only problem that will come up with such equipment. The experience of a man who has actually done flock finishing is always a welcome factor in the finisher's favor.

Handling a Custom Job of Flock Finishing

The modification or custom job is usually done with the small hand spray gun to which is attached a one-quart or two-quart container for holding the flock. The spraying is usually done in the plane, especially when speed is less important than the quality of the finished job.

The small flock gun is usually operated at 25 to 40-lbs. air pressure, but because of the construction and operating principle of the gun it requires 4 to 6-cu.ft. of air. This type of gun operates very much like a pressure cup spray gun. Compressed air enters the container which holds the flock. This agitates the material and forces the flock to the top of the gun and into an air stream that carries it to the surface being finished. The head of such a gun can be adjusted to cause the flock to leave the gun in a round stream or in a wide fan spray. A suitable working balance of air directed into the container, and the air used to carry the material from the gun, must be maintained.

The binder or adhesive that makes flock stick to the surface being coated varies with the sur-

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face on which it is used, and with the method of application. Normally, the binder should be applied with a spray gun. A better "build" can be obtained by this method—and without tell-tale brush marks or laps showing through the finish.

The Adhesive or Binder Needed to Retain Flock

For the proper application of flock, it is necessary to apply the binder on the surface with the proper film thickness, the proper degree of wetness, and the feature of not surface-drying when subjected to air from the flock gun. Much thought and consideration must be given to the preparation of the surface and the application of the binder.

The surface should be well sealed in order to "hold out" the binder and eliminate all "flat" spots. On aircraft linen this can be done by applying regular "dope" to the linen and allowing it to dry thoroughly before applying the binder for flock. A coat of sanding sealer or lacquer primer does a satisfactory sealing job on wood surfaces. Usually a primer is not required on metal—except on aluminum, where a zinc chromate primer is suggested.

To apply the binder (which is usually a synthetic semi-gloss enamel type of material) a mist coat should be sprayed over as much of the surface as can be finished before at one continuous spraying. Usually this is one side, the top, or a definite portion of the interior of the plane. Then a wet coat is applied to a portion of the surface to be finished immediately. It is suggested that an area about 4-ft. wide be sprayed with binder and then the flock be applied to only 3-ft. of this area, leaving a strip about a foot wide upon which flock has not been applied. This eliminates the possibility of getting spray dust from the binder on top of the finished area. Then this procedure is repeated until the job is completed.

Flock is sprayed on the binder immediately—while the binder is extremely wet. Flock should be applied with about 25 to 40-lbs. air pressure at the flock gun, and should be sprayed very much the same as the binder. In spraying flock, start at the bottom and spray over the entire surface, working toward the top. This eliminates as much as possible the excess flock "laying down" on the binder and affecting the adhesion as well as the nap of the finished job.

To enhance the beauty of the interiors of airplanes and to keep in range of the designer's dreams, more than one color is usually the order of the day. There are several things to be considered when applying more than one color to a surface. It usually requires two days to do such a job. A change of color of the binder is necessary, too.

Technique of Masking for Two-Color Flock Finish

The application of two colors on a side wall is usually done by masking off the area to be covered by the second color with masking tape and paper, and then applying the first color. After the first color has dried—usually over night—the first color is masked and the second color is put on, being careful to prevent any of the binder overspray from settling on the finished area.

A 2-color effect can be obtained merely by changing the color of the binder for the second color, remembering, of course, that the

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color difference must be very strong to obtain a different color shade in the flock finish.

During the application of flock finishes many apparent defects will appear in the form of piles of flock, matted sections, uneven nap, etc., but most of these will disappear in the clean-up stage of the process. After applying the flock and allowing it to dry over night, the surface should be cleaned thoroughly with a small vacuum cleaner or, if this is not available, with a hard scrub brush which should be used to brush away all of the excess flock fibers. This brushed-off flock should be saved; if it does not become soiled it can be used on another job.

Often the designer desires to have some abstract design appliqued or stenciled on the flock finish. This can be done by using either the open stencil method or the silk screen method; but regardless of which method is used, the color medium should be of the pigmented dye type. Such a medium will give a good color with sharp detail and still not affect the nap—a necessary requirement for carrying out the flock finish.

How to Provide for Patching Damaged Flock Finish

A problem that is always facing airline operators is that of patching rips, tears, holes, etc., in a flock finish. One plan is to supply each new plane with a piece of flock finished goods to match, and then use this for patching. A piece of doped linen is finished with the same color flock as is used on the job and this "spare" is sent along in the plane.

When it is necessary to patch a spot in the flock finished surface, the repair man cuts a piece of the linen large enough to cover the damaged place. This piece of cloth should be cut with pinking shears to give a serrated edge. The spot around the tear should be sanded well to remove as much of the nap as possible and then the patch should be adhered to the surface with a good grade of waterproof cement. When the cement has dried, brush the patch briskly with a short bristle brush to raise the nap.

Flock finishing definitely is coming into its own in the aircraft field. With it the finisher can give a beautiful, durable finish and at the same time cover up many blemishes, bad joints, and surface faults. A little experimentation with flock finishing will well repay the modern aircraft finishers a thousand fold by opening a new field in finishing the interiors of large transport planes and freight planes as well as small personal planes.

Lac Insect; Lac Tree

The lac insect which secretes the resin from which shellac is made lives on trees, but not necessarily on lac trees. The lac tree is the source of a white resinous sap used by the Chinese and Japanese in the manufacture of their original lacquer.—N. P. V. & L. A.

Behlen Color Cards Show Fillers and Oil Stains

What wood finishers have long wanted—actual wood chips to which different fillers and stains have been applied, for use in matching color—is now offered by H. Behlen & Bro., Inc., 10 Christopher St., New York 14, N. Y.

Two types of fillers and stain samples are shown on each card—overnight and quick-drying fillers; penetrating and duplex stains. These charts give a true representation of 44 different colors of fillers and stains for use on woods in connection with wood finishing.

(Continued from page 58)

extra paleness, or resistance to alcohol, acid and abrasion is needed, the clear gloss and flat lacquers called Synalac Water White Finishing Lacquers are satisfactory. On metal goods, or wooden items on which the grain must be covered, the sales appealing colors of pigmented Synalac furnish a hard, glossy, durable surface. Often one coat of Synalac pigmented lacquer is all that is needed on parts fabricated of clean, smooth metal.—W. P. Fuller & Co. (San Francisco).

Nubelac No. 1939 R. M. Aluminum Lacquer—A fast-drying semi-gloss, low-cost finish for a wide variety of purposes, including copper and steel plates and tubing of deep freeze, refrigerator and air conditioning units. It hides perfectly in one coat and presents a uniform appearance regardless of the color or kind of surface over which it is applied.—The Glidden Co.

Pittsburgh Standard Industrial Enamels—A high quality synthetic finish having excellent flexibility and adhesion to metal and wood surfaces. These enamels are designed for interior or exterior service and have good resistance to wear and abrasion. The maximum amount of hiding pigment is incorporated to provide a finish with uniform coverage and appearance when sprayed, dipped or brushed.

Unusual flexibility in application properties permits brushing, spraying or dipping by adding reducer as recommended. The coating may be either air dried or baked with conventional equipment. A pleasing range of attractive colors is available in one standard quality designed to meet general finishing requirements.

On porous or rough surfaces and new wood surfaces, or where the finish must withstand outside exposure, the use of a primer surfacer is recommended. Metal surfaces containing holes or depressions, such as blow holes and weld pockets may be filled with iron filler before priming. —Pittsburgh Plate Glass Co.

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Granodizing — Cold spray-Granodizing is a remarkably effective process for protecting painted steel. It forms on the steel surface a non-metallic, zinc phosphate coating of dense crystalline structure, integrated with the parent metal and of uniform texture. This smooth tenacious bond enhances the adhesion of paint to steel, and provides excellent protection. At the same time, a high lustre is attained and rendered impervious to the effects of time and weather.

This process is entirely automatic and parts can be handled rapidly and continuously in a power spray washer. The steel to be treated is exposed to the Granodine spray at low temperature for one minute; and the cycle, from preliminary cleaning to final rinsing, is completed in less than ten minutes.-American Chemical Paint Co.

Deoxylyte—For conditioning metal surfaces for painting. Deoxylyte is a concentrated acid-type addition agent used in final rinse baths for both coated and uncoated metal surfaces. It controls the chemical nature of the rinse bath and maintains its strength within the best range, so that metals rinsed in such an acidulated bath will be in a satisfactory condition for painting.

Deoxylyte treated rinses combat the effects of alkaline earth salts, or acid rust stimulators in the rinse water which, if carried out and left on the metal, lead to premature

paint failure. Rinses acidulated with Deoxylyte are designed to provide a chemically conditioned paint-bonding surface for good paint adhesion and film durability.—American Chemical Paint Co.

Alodine—Conditions aluminum for painting. The Alodine process is a rapid and economical method for producing a hard, protective, skin-like coating on aluminum and aluminum alloys. It combines simplicity of procedure and economy of means with highly effective protection; requires no electricity and only a minimum amount of equipment. The processing cycle is of short duration—two minutes or less in a chemical bath at a temperature no higher than 120°F.

Although Alodine is most simply used in an immersion process, it can also be applied by spraying or flow coating. Any combination of the various alloys can be treated in the same solution. Alodine coatings are thin and tight, and provide a smooth adhesive bond for paint and other organic finishes such as wax, adhesives, etc.—A. C. Paint Co.

Peroline—Nos. 1, 2 and 3 are oil-like chemicals for producing an oiled phosphate coating on iron and steel products that are later to be painted, to prevent these surfaces from rusting in storage or transit. It develops a thin oil-like coating securely bonded to the metal; prevents rust from developing under the oil film by reacting chemically with the metal to remove traces of rust, eradicate hand marks and to destroy other visible or invisible rust stimulants. In preparing Peroline-coated work for painting it is only necessary to remove the oil phase by vapor degreasing or with suitable petroleum or coal tar solvents, being careful not to mar the conditioned surface with hand marks. — American Chemical Paint Co.

Materials for Finishing Wood

Synalac Stain-tite Wood Stains are non-grain-raising, non-fading, ready-to-use stains of the aniline type. They are fast drying and may be filled and/or sealed over almost immediately after application.—W. P. Fuller & Co. (San Francisco).

Red-X Fusion Type Finish—Here is a wood finishing system wherein the stain and filler are absolutely mixable with the sealer, therefore all three materials fuse together to make a quick-drying foundation for either a lacquer or varnish finish. Red-X stains and fillers do not need to dry real fast because as soon as the stain and filler have been wiped, a sealer coat can be sprayed on. The ingredients of each coat are so balanced that the two coats are in complete harmony with each other while wet; this allows them to fuse with each other to form one intimately intermixed coat.

As a result, the sealer coat gets a chance to "put its fingers" into the fibers of the wood and produce a tough finish. At the same time, the color is intimately bound into the sealer coat. The filler in the pores of the wood is thoroughly impregnated with the sealer and does not shrink with age. All this results in great toughness, uniformity of color and excellent body on the work, with a great saving in time, labor and money—without sacrificing easy wiping, good filling or other desirable working properties. Red-X fusion-type finishing has been tried and tested thoroughly. Red-X materials include toner stain, wash coat sealer, glazing stain, Duratone (non-grain-raising) stains, No-Wipe stains, pigmented oil stains, fillers, glazes, shading stains, lacquer sealers, clear or flat lacquers, and clear or flat varnishes.—Reliance Varnish Co.

No. 201 Shell Rock Sealer—A sanding first coater for furniture of all types, office and store fixtures, and for hospital and laboratory equip-

HIGH SOLIDS VINYLITE* FINISHES

BY *Watson-Standard*

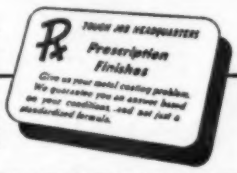
High Solids VINYLITE Finishes are the most versatile group of technical coatings made available to industry.

Metal Finishers who desire the resistance of VINYLITE Plastics and the adhesion, depth, gloss and workability of synthetics can now have all of the characteristics of both—in clear or brilliant colors. High Solids Vinyl Coatings are now being produced commercially, with uniformity readily controlled by our commercial experience and laboratory techniques.

High Solids VINYLITES are prescription compounded, and can be applied with any method of metal product finishing, either before or after fabricating. The system is applicable to the complete family of metals, both ferrous and non-ferrous. They are adaptable to baking and produce brilliant finishes that have outstanding durability on interior and exterior surfaces. Write for a copy of Technical Data Folder on High Solids VINYLITE Finishes.

THE WATSON-STANDARD CO.

Manufacturers of
PAINTS • VARNISHES • INDUSTRIAL
FINISHES AND LITHOGRAPH COATINGS



FACTORY AND GENERAL OFFICES:
PITTSBURGH, PA. • WAREHOUSES:
BOSTON, BUFFALO, DETROIT, NEW YORK

*VINYLITE is a trade mark of BAKELITE CORPORATION, Unit of Union Carbide and Carbon Corporation.

ment. It is characterized by its quick drying, easy sanding qualities, outstanding heat and cold resistance, and excellent anchorage. Top coats of either lacquer or varnish can be used over it.—The Glidden Co.

Synalac Uniforming Lacquers are fast drying aniline toning lacquers which even up color differences between various woods. Shading stains are applied by spraying over a sealed surface that has been sanded. Lacquer or varnish finish coats may be applied immediately after the application of Synalac uniforming lacquers.—W. P. Fuller & Co. (San Francisco).

Pittsburgh High-Gloss Industrial Wood Lacquers, in a wide range of colors, are useful for toys, wood novelties, picture frames and miscellaneous wood articles. These wood lacquers have excellent build, high solids, good filling and coverage on soft woods. Semi-gloss industrial wood lacquer is designed for use where high build and gloss are not required.

A clear wood sealer is recommended to seal the pores of new wood before applying the finish coat. Clear wood sealer may be sprayed or dipped as received.

Gray sanding surfacer is recommended for use under colored wood lacquers where a better quality finish and appearance are desired.—Pittsburgh Plate Glass Co.

No. 900 Chemical Resistant Black—A combination hardener and finish for Masonite, composition board and wood. It penetrates these surfaces and, when dried, greatly increases their hardness. Being highly resistant to many acids, alkalis and solvents, it is especially suited where requirements are unusually exacting, such as on laboratory, hospital, photographic and similar equipment.—The Glidden Co.

Miscellaneous

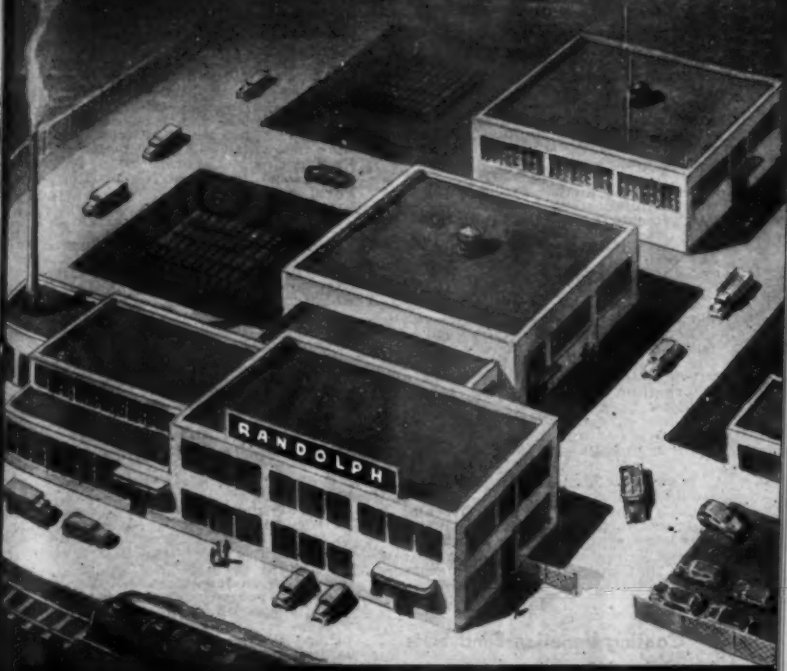
Plastic Coatings—Plastics vary in their behavior toward coating materials according to type or chemical make-up. To take care of this difference there is a finish to meet the requirement of each plastic type. These are obtainable in opaque or transparent colors. This general line of finishes also includes dip dyes which provide a durable transparent coloring to the plastic.—Randolph Finishing Products Co.

Protektol Stripping Lacquer — An easy-to-use, transparent stripping or "peel-off" lacquer, clear or in colors, which is applied in a thickness of .001 to .002-in. by brushing, spraying, dipping or roller coating for the protection of polished or easily-marred metal, plastic, glass or ceramic surfaces.—Interchemical Corp.

A. C. P. Solvent No. 3 (For stripping off paint)—A liquid chemical which, when added to a hot caustic solution, speeds the removal of paints, lacquers and enamels—particularly high-bake enamels. Note: Stripping solutions are generally made up by adding from ½ lb. to 4-lbs. of caustic per gallon of water.—American Chemical Paint Co.

STILL ANOTHER RANDOLPH ACHIEVEMENT!

Durable light-proof wood lacquer for interior and exterior use.



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RANDOLPH

FINISHING PRODUCTS CO.

arlstadt New Jerse

Letters from Readers

Who Makes Flock Coated Paper in Rolls?

In your September 1946 issue we noticed an article on flocking which described the process of flocking paper in large sheets or rolls. We would be pleased if you could advise what companies manufacture flocked paper of this type, for sale.—P.S.W. Co.

We do not know. Perhaps some of the manufacturers of flock (see advertisements) can tell you.—ED.

Tumble Polishing

We are of the opinion that some months back we read, in this publication, an article relative to the polishing of small wooden parts by the tumbling method. We would appreciate it if you would send us any information that may be available relative to this operation or, in lieu of that, give us the names of companies who supply a material for such a tumbling purpose.—C. Y.

We are sending you a reprint of a tumble finishing article published some years back. Later articles have been so much in demand that no more tear sheets of them are available.

In a letter we are naming a few firms that can supply finishes suitable for application by tumbling.—ED.

Coating Venetian Blind Slats

A customer of ours, who is in the Venetian blind manufacturing business, has inquired about the finishing process and equipment that the pencil manufacturers use to apply lacquer to wooden pencils. He wants to use this same process in finishing Venetion blind bars, instead of spraying them as at present. Have you any data or previous articles on this? —T. A. Co.

We believe that it is the custom of most manufacturers of Venetian blind slats to roller coat these slats. Machines have been devised which will coat the slats on both sides and on both edges as they pass through lengthwise. A manufacturer of a machine of this type, according to our reference card, is Gasway Corp., 4600 Palmer St., Chicago 24, Ill.—ED.

Viscosity Meters

We are interested in obtaining the names of companies who manufacture the different types of viscosity meters for lacquer materials, and would appreciate it very much if you would please furnish us with same.—A.T. Co.

For the Ford viscosity cup, try Vol-U-Meter Co., Buffalo, N. Y. The Zahn cup is a product of General Electric Co., Schenectady, N. Y.

A more elaborate type of viscosity meter can be obtained from one of the following companies: Brookfield Engineering Laboratories, Sharon, Mass., and Brabender Corp., Rochelle Park, N. J.—ED.

To Clean Lacquer Thinner

Could you recommend companies in our area (Whitman, Mass.) that would re-distill used lacquer thinner? —N. Chair Co.

The only one we know of at the moment is the one advertising in Industrial Finishing Magazine. This is Solvents Recovery Service, 1019 Broad St., Newark, N. J.—ED.

Infra-Red Drying

I recently obtained a copy of the book, "Modern Organic Finishes," by R. H. Wampler, in which you have written the foreword. I would like to obtain a copy of your magazine, as I am inclined to believe that it would be helpful in a project which I am currently undertaking.

At the present time I have an application in the patent office for a system of fast finishing wood and other floors, using the infra-red lamps, which is combined with the wet buffing process usually accorded the penetrating seal type finish—and if your magazine is what I anticipate, I would like to enter a subscription.

Also, I am very much interested in obtaining the latest technical data on infra-red lamp drying and any

Remember Pearl Essence for

A Decorative Finish

MEARLMAID Pearl Essence is being used on hundreds of different products to produce a decorative and attractive effect.

Investigate the numerous advantages of a Mearlmaid Finish before you select the final coating. Its sales appeal and merchandising value are important.

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MEARLMAID PEARL ESSENCE

Has High Reflective Light Value

For Dials Controls Instruments

WORLD'S LARGEST PRODUCER OF PEARL ESSENCE

information or tehnical data on the manufacture of penetrating sealers, fillers and waxes.

I have a considerable library relative to the above mentioned, but I am desirous of obtaining all available information. If you can be of any assistance I will greatly appreciate same.—F. S. McI. (Associated Floor Co.).

Blisters on Aluminum

We are interested in getting a reprint of the article on blisters on aluminum castings, which appeared in the October issue of this magazine.—Sun Electric Corp.

No reprints have been made, but we are sending you tear sheets of the article.—ED.

Protective Coating for Bowling Pins

I am interested in obtaining a plastic coating for bowling pins. Can you tell me if there is a material made, for either spraying or dip-coating, that will leave a thick coating on a maple bowling pin? The coating should have sufficient thickness and elasticity to actually absorb the shock of bowling and thereby protect the wood against damage.

I've been wondering if the coatings made for the army and navy for packaging unused equipment would work in this respect?

I hope you understand the finish I am interested in is not just another lacquer that protects the wood against wear; but a finish that will act as a buffer and take the abuse in the same way as the rubber covering does on golf balls.—S. H. S.

We are not sure that you can get just what you have in mind. We do know that excellent coatings for bowling pins are manufactured and sold by a number of finish manufacturers, and we are naming some of them in a letter.—ED.

Fine Custom Finishing

In conjunction with our decorating business we operate a finishing room. In this branch we do all types of hardwood finishing, metal finishing, gold, silver and aluminum leafing, flock work, screen processing and trick finishing of all kinds. In this business we are continually searching for and experimenting with all the latest materials and methods we can find. Therefore we are well up on all of the new developments in our line. Finishing of any article or material is our main concern. We do no manufacturing of any kind and we rely on small manufacturing concerns in our city for business. To date there is not enough volume locally to warrant the expansion program we have in mind.

We know there are many small manufacturing concerns who do not have a very large output. Consequently they are unable to install new and expensive finishing equipment to compete with larger concerns on the open market with a similar product. Nor is the experienced personnel available for finishing. In other words, to most small companies, finishing is a big production headache. We believe we can assume these headaches and build a profitable business for ourselves.—Daugherty, Oakland, Cal.

Can Furnish Sheets of Plastic for Walls

We have noticed in December 1946 issue, an item on page 92 requesting information about plastic coated fabrics washable and suitable for covering walls by paper hangers.

Our product known as "Saratex" is a woven Saran fabric filled with a plastic coating and finally hand decorated in from one to five colors or more. This material may be applied the same as any wallpaper and is matched by the hangers just as wallpaper is applied. The material is fire resistant and washable as you may determine from the sample enclosed with our letter.

We would be pleased to contact the source of the inquiry, if you care to furnish us with the address.—TENMOR PRODUCTS CORP., Ossining, N.Y.

Want Furniture in White

We are interested in finding out where we can purchase furniture "in the white," particularly kitchen, dinette, and bedroom sets. Could you send us the names and addresses of companies that manufacture this type of furniture?—IMPERIAL FURNITURE DECORATORS, Newark, N. J.

Can Supply Bake-Synthetic Screen Process Paints

In reference to E. P. Co's. inquiry on page 86 of December issue, we sent this to our Technical Service Department, and we just received their answer which we quote:

"Kem Silk Screen Colors are adaptable to force-drying procedures by

HILO

FINISHES HELP YOU TO SELL ON SIGHT!

FRANZITE

FAST AIR DRY SYNTHETIC

Franzite is a synthetic type finish which gives good hiding and high gloss in one coat. It sets in 20 minutes, dries to touch in 45 minutes and air dries hard overnight. It is elastic, has good adhesion to wood, steel and many other surfaces.

Franzite may be sprayed or dipped. It lays on with a full, smooth, glossy film which provides long-lasting protection and beauty.

Franzite will give in air drying the nearest approach to a high heat, short bake finish on wooden kitchen cabinets, wood handles, soldered metal work, etc., which cannot be subjected to high temperatures.

Send today for Bulletin 24 and samples

★ **VITRA CARLITE**
The quick bake synthetic enamel.

★ **FRANZITE**
An air dry or quick low bake synthetic enamel.

★ **HAMMERKRAFT**
Attractive hammered metal effects; quick baking.

★ **RIP-PLS**
The superior black wrinkle finishes.

★ **No. 916 BLACK CRYSTAL**
The real sparkle finish.

★ **BLACK BAKING JAPAN**
The dense, black coating in either lustre or rubber finish.

★

HILO

HILO VARNISH CORPORATION
42-60 Stewart Avenue, Brooklyn 6, N. Y.
2420 Washburne Ave., Chicago 8, Ill. • Park Sq. Bldg., Boston 16, Mass.

convection or infra-red type ovens, in temperature ranges of 180° to 300°F. When this drying method is used on application on glass the only limitation, as far as we can see, is the temperature gradiant suitable for glass so it will not break or crack.

"Kem Silk Screen Colors are at present used successfully for markings on glass bottles where an infra-red baking cycle of 8 to 10 minutes is employed. It might be pointed out that, similar to metal drying, the color, or reflectivity of the color, is quite influential in the time cycle when infra-red is used."

As for the Kem Silk Screen Colors, we do not expect to have these back in our line until later.—The Sherwin-Williams Co.

We Do Waxing, Too

In the December issue, on page 86, is a request for wax for wood blocks from P. & W. in Michigan. We do waxing and would appreciate further information from this company.—Nesbit Industries, Inc., Chicago 47, Ill.

Protective Peel-Off Coatings

We have an important spot for a cob-web sprayable coating, as mentioned in the October issue, page 98. Will appreciate all data, sources of supply, etc., you have at hand.—H. C.

Several are available—too many to be named here. In a letter we are listing the names and addresses of several manufacturers of such materials.—ED.

Abrasive Testing

As we manufacture plasticon steel table tops and are desirous of setting an abrasive standard for chipping, we would appreciate it if you could furnish us the names of manufacturers who produce machines for abrasion tests.—Steel Furn. Co.

For an abrasion testing machine we suggest Taber Instrument Corp., 113 Goundry St., North Tonawanda, N. Y.—ED.

Research Laboratory

Centro Research Laboratories, Inc., Briarcliff Manor, N. Y., specializes in industrial research and development in the fields of organic coatings, corrosion and protection of metals and alloys, fungicidal coatings, paints, varnishes and lacquers.

The organization is divided into functional groups which are provided with the most modern and efficient equipment. Projects are subdivided so that they may be efficiently handled by the group having appropriate skills and experience.

Basil Howell Appointed Production Superintendent

Jones-Dabney Co. announces the appointment of Basil Howell as Production Superintendent of its Automotive Division located at Caniff & G. T. R. R., Detroit.

Mr. Howell is well known in automotive paint production circles in the Detroit area, having spent 20 years with another large producer. Jones-Dabney Co. manufactures and develops all types of automotive finishes in its Detroit plant.

F. M. McNerney, Technical Director at Yarnall Paint Co.

At a dinner given at the Penn Atheletic Club in Philadelphia, Pa., William MacKnight, President of the Yarnall Paint Company announced the promotion of F. M. McNerney to Technial Director of the company.

Mr. McNerney is well known among technical men in Philadelphia. He graduated in chemistry from college in 1921 and with the exception of five years as Technical Director of the Armstrong Co. in Detroit has spent 24 years in the paint industry in Philadelphia.

Interchemical Re-Aligns Pacific Coast Divisions

Interchemical Corporation, in order to consolidate its Pacific Coast operations, has transferred the business and personnel of Scriver & Quinn, Inc., a West Coast Subsidiary, to two other divisions. Industrial finishes formerly sold by Scriver & Quinn will be sold by Interchemical's Finishes Division; and Scriver & Quinn consumer products will be marketed by Interchemical Corporation, Scriver & Quinn Finishes. The change was made December 2.

Interchemical executives say that the integration of Scriver & Quinn with its parent company will be instrumental in extending the benefits derived from the extensive research, development and manufacturing facilities of Interchemical, which has long been a leader in the field of chemical coatings for protective and decorative purposes.

You can cut costs without cutting corners, with Pratt & Lambert Industrial Finishes.

PRATT & LAMBERT-INC.
Industrial Finishes
NEW YORK BUFFALO CHICAGO
FORT ERIE, ONT.

Questions and Answers

White Enamel Bubbles

We manufacture metal burial vaults and have encountered a great deal of difficulty in our painting procedure. We would appreciate it if you could give us any information or tell us of an authority who might give us some help. There may have been an article published that covers our problem. If so, we would like a copy of such an article.

Our vaults are made from 12, 10 and 7-gauge cold and hot rolled steel sheets. The vault is made in three sections—the center section or dome, and two ends. We attach the ends to the dome by means of flash welding. The flash resulting from this weld is removed by an air chisel, after which it is ground. All pits are then filled with a filler and we seal this filler with a sealer. After the filler and sealer are air dried, we apply a white enamel.

In the process of applying this enamel, we get a formation of bubbles in and around the filled section of the vault, raising the white enamel. This trouble occurs before the white enamel is dried in a gas oven. On a large percentage of our production, this process must be repeated due to the bubbles that show up. Any help that you might give us, which will solve some of this difficulty, will be greatly appreciated.—H. N. Co.

Try a fairly high heat drying of the putty or filler you use—perhaps with portable infra-red heating units. Dry the filler thoroughly before applying sealer coat. Then apply thin coat of thin sealer and let it dry thoroughly before putting on the white enamel. Entrapped solvents may be causing the blisters. The thorough drying with heat should drive them out before the enamel is applied.

If this doesn't work, try a different type of filler—and, if necessary, a different type of sealer coat.—S. F.

Finishes for Smoking Pipes

I manufacture smoking pipes but I haven't the right method of finishing. Will you kindly advise me where I can secure the right kind of finishing material for smoking pipes?

There must be a special lacquer, or bright dye for the pipes, but I don't know where to get it. If you will be good enough to give me some address, you will render me a great service.—R. R.

In a letter we are naming two or three manufacturers of finishing materials who may be in position to supply what you want. We have very little information on the technique of finishing smoking pipes. Evidently a penetrating sealer is first applied to the bare wood. When this is thoroughly

INDUSTRIAL FURNACES

now is the right time to buy

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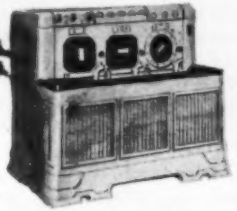
WAA prices are low
Furnaces are for immediate sale
Large selection now from which to choose



"TOCCO" INDUCTION HARDENER. Special Listing of WA 5-47 Tocco units available at all Regional Offices.

The War Assets Administration offers many types of surplus electric, gas and oil industrial furnaces—furnaces which should be on industry's production lines today. The offering includes models of well-known manufacturers covering uses such as:

Metallurgical furnaces
Heat treating furnaces
Heating furnaces
Metal melting furnaces
Drying and baking ovens
High frequency induction furnaces

To: WAR ASSETS ADMINISTRATION (Address nearest Regional Office)

We are interested in obtaining information on a furnace with the following specifications:

Use.....
Type.....
Size Working Space.....
Fuel.....Elec.....Gas.....Oil.....Max. Temp.....°F.
Other Equipment.....
.....
Name.....
Firm.....
Address.....
City.....State.....

Although this material has previously been offered to priority claimants, 10% of the merchandise has been reserved to fulfill any further needs of priority claimants including VETERANS OF WORLD WAR II, who are invited to contact the Regional Office serving their area.

This equipment is available for export. Any question on export control should be referred to Office of International Trade, Department of Commerce, Washington, D. C.

WAR ASSETS ADMINISTRATION

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Offices located at: Atlanta • Birmingham • Boston • Charlotte Chicago • Cincinnati • Cleveland Dallas • Denver • Detroit • Fort Douglas, Utah • Fort Worth Helena • Houston • Jacksonville Kansas City, Mo. • Little Rock Los Angeles • Louisville • Minneapolis • Nashville • New Orleans • New York • Omaha Philadelphia • Portland, Ore. Richmond • St. Louis • San Antonio • San Francisco Seattle • Spokane • Tulsa 850-1

dry it is followed by one or more coats of thin, perhaps tinted, varnish or lacquer or synthetic which will withstand heat. The final coat is probably buffed to a high polish.

Will some reader, who knows, tell us something about the finishing of smoking pipes?—Ed.

Tumble Finishing?

We manufacture wooden model airplane propellers which we finish with lacquer. In our attempts to improve the finish we have tried tumbling but with little success. Possibly this is because we have no information based on successful experience. If you will furnish us with whatever information you have available, or sources of contact, we would appreciate your help very much.

A friend told us of a process known as "Tum-Lac" and we wonder if you can tell us how we may learn more about it.

The sample copy of your magazine, sent us some time ago, was very interesting and we hope to find valuable suggestions in subsequent issues that will improve our operations.—Hobby Specialties.

We question whether tumble finishing will give you as clean and smooth a finishing job on articles of this shape as dipping. We are not familiar with the word "Tum-Lac," as referring to any product or process. In a letter we are sending you a reprint of an article about tumbling; also we are suggesting names and addresses of manufacturers of materials adaptable to tumbling.—Ed.

Random Comment on the Industrial Scene

(Continued from page 9)

Co., Cleveland, Ohio, has issued a technical booklet on this subject that stresses the true costs of nine types of portable tool operations and outlines specific ways to handle them more economically. Data is based on actual case reports of plants which are said to have reduced portable tool costs.

* * *

Causes of Falls — Every year thousands of persons in industry are seriously injured by falls that could have been avoided. Nine of the most prolific causes of falls of persons have been listed by one authority as follows:

1) People failing to look where they are going.
2) Hurrying or slipping on uneven surfaces, stairs or ramps.
3) Using makeshift supports such as boxes, barrels or chairs.
4) Carrying bulky objects that obstruct the view.
5) Running down stairs or failing to use hand rails on stairs.
6) Failing to use both hands for gripping ladder rungs when climbing up or down ladders.
7) Failure to use safety belts and adequate safeguards.
8) Failure to recognize that good plant housekeeping is essential to both efficiency and safety, and that hazards include slippery floors, obstructions in aisles, etc.
9) Wearing badly worn, ill-fitting shoes or high heels.

* * *

Laminated Wood Flooring—Laminated Wood Products, Incorporated, has leased TVA's experi-

In Harmony with modern beauty

The quality reputation of Winter & Company Pianos is nation wide. It has been guarded jealously for nearly half a century.

Winter & Company are pioneers in piano styling. Beauty as well as tonal excellence has been accented through the years.

In complete harmony with lines and tone, Egyptian Finish intensifies the surface beauty of Winter & Company pianos. Winter finish-experts choose Egyptian for the lasting good looks which are so essential in quality pianos.

Piano finishes are only a small part of the complete Egyptian line of lacquers, synthetic and other specialized production finishes. Your inquiry is invited on any finish problem or requirement.

THE EGYPTIAN LACQUER MANUFACTURING COMPANY

SPECIALIZED PRODUCTION FINISHES

P. O. BOX 444, NEWARK, N. J.

mental pilot plant to produce laminated lumber at Knoxville, Tenn., and will start the manufacture of laminated flooring by the TVA continuous glue press process as soon as reconditioning of the plant has been completed. Production is estimated at around 4,000,000 board feet per year when full operation is attained. The plant uses a process and equipment, developed by the TVA commerce Department's Regional Products Research Division, to produce high-grade flooring from cull hardwoods.

* * *

Spurs Small Industries—"Slowly and cautiously, small plant managers pleased with the industrial outlook under decontrol are taking sober steps to reopen former enterprises closed during the war. Others are opening new enterprises, following plans developed during the war but held back until this month. This wave of industrial enterprise, now definitely taking form, represents a totally new addition to the postwar industrial scene."

That's how Hartley W. Barclay, one of the nations foremost industrial journalists, interpreted in *The New York Times*, one day last month, the general effect of decontrol on small-scale industrial operations. Whether opened by veterans or by experienced prewar plant managers, these new small establishments are marked, he said, by a pattern having many significant and important characteristics, namely: 1) Conservative approach to production problems; 2) lack of ballyhoo and publicity seeking; 3) careful selection of personnel, equipment, products and methods, and 4) concentration upon customer service for determination of both design and price decisions.

Room for Parking—Industry led the way toward solving the parking problem by providing adequate, orderly parking space for employees and visitors. Now, according to the magazine Baltimore, published by the Baltimore Association of Commerce, the city of Baltimore is studying a plan which would require business and industry to provide off-street parking, preferably on adjoining property. This would apply to all new establishments. Off the street loading and unloading space would also be required.

Such a plan should be valuable in solving Baltimore's traffic problem as well as thousands of other American cities, especially those which have narrow streets.

* * *

New Paints Promised—Heat-resistant, fire-retardant, non-age-darkening paints are coming, according to *Paint, Oil & Chemical Review*. In citing a report made by H. D. Cogan and C. A. Setterstrom of Mellon Institute of Industrial Research, Pittsburgh, to the American Chemical Society, POCR says:

"High resistant to weathering and fire is produced by mixing pigments with ethyl silicate, a colorless liquid. The paints will be particularly useful in decorating and protecting theatrical scenery, industrial fabrics, furnace castings and the walls and chimneys of chemical plants. Pigments most suitable to use with ethyl silicate are, generally, the chemically inert ochre, sienna, chromium oxide, or iron oxide. Titanium oxide is a good white, and carbon black can be used as a black pigment."

Concludes the report: "The chemist in search for new and bet-

The armadillo has an original solution for his coating problem. He's the only mammal who wears his skeleton on his back.

When your surface coating problem calls for an original answer, use lacquer. It's durable as the armadillo's shell, easy to apply, attractive, and tough. Lacquer dries fast, requires no costly drying equipment. Your lacquer supplier would like to tell you about it in more detail.

He Wears His Inside Outside!

COMMERCIAL SOLVENTS Corporation

CSC makes solvents and plasticizers, but is not a lacquer manufacturer.

ter products often finds that natural materials possess the properties he desires. Silica is particularly interesting because it melts at over 1700° F. and is highly resistant to chemical attack."

* * *

Re-appraise Human Values—"We have dealt too much and too long on success in terms of the dollar—too little in terms of humanities," Dr. Willard H. Dow, president of The Dow Chemical Co. recently declared. In calling for a new appraisal of the true values of human endeavor, he singled out industrial growth and progress as the vital constructive force of a free people which has given them the warld's highest living standard and their country the key position among nations.

Kaiser-Frazer's Paint and Drying Setup

ONE THIRD of the manufacturing space in Willow Run —the largest factory in the world under a single roof—is occupied by huge ovens and paint booths to be used for Kaiser and Frazer car bodies, E. J. Hunt, Manager of Operations for Kaiser-Frazer Corp. and the Graham-Paige Motors, reports, says N. Y. Journal of Commerce.

"We are nearing completion of work on the Bonderite booths, paint spray booths, washing chambers and ovens necessary to the production of 1500 cars a day in an 8-hour shift," Mr. Hunt is quoted as stating. "Conveyor chains will carry bodies at the rate of 12-ft. a minute through Bonderite and prime surface coats. The bodies will move at the rate of 6-ft. a minute through final paint coats."

Paint for the bodies will be prepared at the rate of 120 gallons per minute of each of five colors chosen for the first few months of production, it is stated. The prepared paint will be pumped under pressure to the sprays, says the report. The coatings used are specialized finishes formulated for use in automobile production.

Interchemical Finishes Honors Service League

At dinners held recently in Cincinnati, Chicago, and Newark, Interchemical Corporation's Finishes Division honored members of its Service League, employees with five or more years of service. A similar meeting is to be held in San Francisco.

Gold lapel buttons studded with diamonds were presented to eight employees who have been with the company for 40 years or more. They are: Charles J. Roh, Aymer J. Bucher, Lewis B. Vreeland, Daniel T. Daley, and William C. Schuster of Newark; and William F. Obrien, Harry K. Carnay, and Joseph Hurst of Cincinnati.

Other types of lapel buttons and certificates designating their years of service were presented to 367 employees whose combined service record with the company totals more than 6,000 years.

Edw. J. Allee of P. P. G. Co. Died Dec. 23

Edward J. Allee, advertising manager of the Pittsburgh Plate Glass Company's paint division, died Sunday, Dec. 22, at the Allegheny General Hospital, Pittsburgh, Pennsylvania.

Starting with the company in 1912 as stenographer to the late Fred Ehle, vice president of the Pitcairn Varnish Co., Mr. Allee has been associated with the firm for 34 years. He has been manager of paint advertising since 1919.

A native of Milwaukee, Mr. Allee maintained his headquarters in that city until 1935 when the firm's paint advertising department moved to Pittsburgh.

INDUSTRIAL FINISHES

Lacquers
Varnishes
Enamels
Stains
Fillers

JONES-DABNEY

Since 1919

LOUISVILLE, KENTUCKY

RESINS AND GRINDING LIQUIDS

"Syntex" Alkyds
Grinding Liquids
Varnishes
Special Resins

JONES-DABNEY CO.
DIVISION OF DEVOE & RAYNOLDS CO., INC.
Factories at
LOUISVILLE - NEWARK - DETROIT

Materials Supplies Equipment

"Color Bar" Introduces New Paint-Mixing Principles

A revolutionary motor-controlled "Color Bar"* that looks more like a modern household refrigerator than a paint-mixing machine has been brought out by The Arco Co., of Cleveland, Ohio. Designed to fit into any 29-in. square of floor space, it can be installed in display windows or sales rooms as a merchandising aid just as easily as in a production shop.

Introducing a new mixing principle—automatic rotoplane agitation—the machine holds 16 one-gallon cans on two turntables which revolve around a single motor-operated drive shaft. Rotation of the drive shaft propels stirring mechanisms inside the individual cans to insure uniform pre-mixing of base colors.

Arco has streamlined all of the operations in the new unit by introduction of mechanical controls, combination cut-off valves and air vents, and by re-design, which concentrates all pouring in a single position.

Mounted in a sturdy, enameled steel cabinet, the Color Bar has built-in lighting, label racks, shelves and easel for formula books, and an enclosed storage space capable of holding 32 one-gallon cans. It is delivered on casters, completely set up and ready for use.

*Trademark of the Arco Company.

With all pouring concentrated in a single position, and all the operations under mechanical control, a girl in an evening dress can operate the machine without fear of consequences.

Portable Dust Collector

An innovation in portable dust collectors is announced by the Dust Filter Co., 1755 W. Lake St., Chicago 12, Ill. The new collector is called the Dustex Dust Collector. This unit causes separation of a high percentage of the dust at the point of intake.

A baffle plate beneath the filter tubes causes a rotation of the air

QUALAVITE

tested for Resistance

QUALAVITE has been formulated to produce a finish that will positively resist the ravages of alcohol, water, moderate heat, abrasion, impact and will not scratch white seven days after application. This super lacquer has been laboratory tested to stand the "gaff." It is hard and retains its flexibility and permanency indefinitely. QUALAVITE is as modern as the atom bomb. If you do not know QUALAVITE 100E, then your use of it will prove its efficiency. Write for quotations.

Manufactured by the Makers of

AMERICA'S FINEST PADDING LACQUER

QUALASOLE

QUALATONE PRODUCTS INCORPORATED

21 GAY STREET **NEW YORK 14, NEW YORK**

and dust in a cyclone manner into the retaining pan at the bottom of the unit. This results in a deposit of the dust at that point before it reaches the filter tubes. Consequently, no heavy dust or lint reaches the 15 long filter tubes at the top of the unit. All remaining fine dust is collected in the tubes.

The company declares that little maintenance is required. A static pressure of 6¼-in. is maintained constantly. The unit comes in one size only. It is 4-ft. high and approximately 2-ft. square. It is equipped with a 1½-hp. motor and can handle two 4-in. branch pipes. The company recommends it for use on buffing, polishing and grinding machines, although it has many other adaptations.

Rust-Resistant Primer

The wartime experience of the Army and Navy in protecting equipment against rust and corrosion is being turned to good account by at least seven state highway departments, according to a report by Du Pont chemists.

Seven states (Alabama, Iowa, Kentucky, Massachusetts, Missouri, Michigan, Minnesota) are using a priming paint containing zinc yellow pigment for protection against rust on both new and existing steel highway signs. Zinc yellow is a pigment that was used in paints on Navy ships, Army jeeps, trucks, tanks and planes for an undercoat next to bare steel and aluminum. Primers formulated with this pigment dry rapidly and provide a hard, adherent surface for the finish coat.

Where there is continuous exposure to the weather, the use of a zinc yellow priming coat on a clean metal surface affords many additional years of rust-free life. The highway signs of the seven states are painted with primers in which an average of 27% of the pigment is zinc yellow.

Kidde Produces New 5-lb. Fire Extinguisher

A new model fire extinguisher containing 5-lbs. of fire-killing carbon dioxide, in a recently developed light-weight cylinder, is under production by Walter Kidde & Co., Inc. of Belleville, N. J. The

Available in different sizes.

new portable replaces the old 4-lb. type, giving an extra pound of carbon dioxide while knocking 2½-lbs. off the average charged weight. The 4-lb. portable weighed 18-lbs.; whereas the new 5 pounder weighs but 15½-lbs.

Increased carbon dioxide content in the new model provides added protection to small hazard areas. With the extra pound of carbon dioxide, fires can be attacked with a greater safety factor. Easier handling has been made possible by the reduction in weight.

Just the right material for your postwar finish!

Here's just the material for your post-war product finish . . . a tough piece of goods that will stand up under the most severe conditions. Protects as no ordinary lacquer will do! It produces a splendid transparent finish of full depth on maple, walnut, gum, mahogany and other cabinet woods. Available in either the clear Gloss Rubbing or the Satin Finish. Economical; gives plenty of coverage; dries quickly. Mar Proof Lacquer Sealer is recommended with it for the first coater.

Cannot be marred or scratched — just thumb nail it; try to scratch or mar it.

Send for
FREE WORKING SAMPLES

A Schaefer Mar Proof Lacquer finish will give you the best start in this most critical period. Use this tough mar proof lacquer, and obtain satisfaction right away. Working samples furnished without obligation. Write for them!

THE SCHAEFER VARNISH COMPANY, INC.
Louisville, Kentucky

MAR PROOF LACQUER

Other portables are available in 2½, 10, 15 and 20-lb. sizes; and wheeled units in 50, 75 and 100-lb. sizes. All sizes of Kidde extinguishers are approved by both the Underwriters' and Factory Mutual Laboratories for flammable liquid and electrical fires.

Gast Air Motor Ready

The Gast Mfg. Co., Benton Harbor, Mich., announces its new Model No. 1 explosion-proof air motor—a relatively low-priced, 2¼-lb., 2¼-in. diameter model which may be used in place of electric motors on portable or stationary equipment. It meets all safety requirements.

The Gast No. 1 air motor is of typically simple Gast design: By centrifugal force, four one-piece sliding vanes, fitted in a shaft-mounted rotor, slide outward in a shell, presenting their surfaces to the incoming air, to cause rotation. The motor starts in any position, will not spark, will not burn out due to overload or sudden braking. It runs under constant low speed, as 100-rpm., without stalling. Speed varies from 0 to 6,000-rpm; the hp. from 0 to 1/6.

Surfaces Concrete Floors

Stonhard Stontop is a liquid treatment for concrete floors—a treatment that preserves the floor and prevents disintegration. It penetrates and fills the pores of the concrete and, by chemical reacting with the cement, it hardens and fortifies the surface against the effects of abrasion.

Tests by an independent laboratory show that the application of Stonhard Stontop triples resistance to abrasion. Treated floors stay smooth under the most ab normal conditions because the sur face is harder. In addition, Ston hard Stontop increases the den sity of the concrete, protecting th floor against the damage ordinarily caused by the penetration of acids greases or oils.

Floors that have been so treated are easier to keep clean. They stay cleaner because the surface particles do not loosen and form dust. Thus a harder, denser and cleaner floor is the result.

This material, sold by the drum, is a product of Stonhard Co., 401 N. Broad St., Philadelphia 8, Pa.

New Antifouling Paint

A new paint that protects a ship's bottom from barnacle infestation and eliminates the necessity of frequent dry docking to remove barnacles and other marine-growth, has been developed by research chemists of Battelle Memorial Institute, Columbus, Ohio.

Developed after 3½ years of research, the paint owes its effectiveness to metallic copper which in combination with other ingredients, renders the painted ship hull poisonous to marine-life attack. It has proved effective in preventing barnacle infestation in fouling water for as long as two years. This is about four times the service life of ship-hull paints meeting ordinary specifications. It may be used over metal or wood; it gives equally effective protection in both cases.

Fouling reduces the cargo load the ship can carry and greatly reduces its speed and efficiency. Within six months from the time a ship is cleaned and painted in dry dock, barnacle infestation often increases the ship's fuel con-

LET VORAC HELP YOU

With your special finishing problems:

Is your job different? Do ordinary lacquers, varnish and finishes let you down? That's where VORLAC special formulas can often step in and save you time, trouble and money.

VORLAC finishes are individually formulated to meet the special needs of scores of different industries.

Need a finish especially designed for walnut? One for oak? One for pine, or some other wood? VORAC has them all.

Need a lacquer that hides defects in wood? VORAC has it.

Need a metal coating that's not affected by weather, salt, gasoline or oil? Or a brass lacquer that perspiration can't hurt? A toy lacquer that can really take it? A finish for some special rubber, leather, linoleum, cement or glass problem? VORAC has these, too; and many others.

Write VORAC Today!

It's easy to get VORAC'S expert help on your problem without any obligation. Just write on your company letterhead, stating as specifically as possible what your finishing problem is. From their hundreds of manufacturing formulas, VORAC engineers will send you a free sample of a protective coating designed especially for your job. Write:

Vorlac
BRAND

INDUSTRIAL FINISHES

THE VORAC COMPANY

RUTHERFORD, NEW JERSEY

sumption as much as 50%. Because of the severe losses in operation efficiency, it is often necessary to dry dock ships about every five or six months when they are sailing in fouling waters.

The Battelle-developed antifouling paint resulted from a program of research sponsored jointly by a group of copper companies. The paint is now being manufactured by the Amercoat Division, American Pipe & Construction Co., with offices in Los Angeles, Chicago, and New York, a licensee of the patent rights.

Portable Infra-Red Unit

A cluster of infra-red lamps mounted on a "bell" that looks like the brake drum of an automobile, can be turned to face up, sideways or down. The "bell" is supported by a slender, flexible floor pedestal. One model has two lamps; another has four. The equipment is adaptable to many uses wherever heat is needed. Also, the heat lamps can be replaced with lighting lamps when and if this is desirable. For further information, write The Miskella Infra-Red Co., E. 73rd and Grand Ave., Cleveland 4, Ohio.

Airfoam Nozzle for Fire-Fighting

The Foamite Airfoam-generating nozzle—a strikingly out-of-the-ordinary, foam-making, fire-fighting nozzle, only 2½-in. in diameter at the widest part of the barrel—is made by American-LaFrance-Foamite Corp., Elmira, N. Y.

The nozzle mechanically creates Airfoam through a real scientific mixing of water, air and Foamite Airfoam liquid within the nozzle and releases the combined ingredients as Foamite Airfoam through the nozzle tip. It is especially good for extinguishing fires in flammable oils, paints, varnishes, etc.

Hydraulic Motor

(No Sparks)

The Superdraulic Corp., Dearborn, Mich., announces a line of hydraulic motors suitable for use in industrial areas where an electric motor might be hazardous because of its possible sparks, arcing or excessive heat.

Zip-Off Remover; Also, Wood Replacer

Announcement is made that the Andersen Specialty Mfg. Corp., Chicago, Ill., is now ready to launch a nation-wide sales campaign on a new war-developed noninflammable paint remover called "Zip-Off," and a powdered plastic known as "Tec-Stone Wood Replacer."

Two new products in containers

According to William Andersen,

General Manager, Zip-Off is made from a chemical base developed for military use during the war. The product was extensively used by the Army, and is effective in refinishing furniture, boats, automobile trim, or for any other painted surface where an efficient and safe paint remover is desirable. Zip-Off is reported to be completely non-inflammable and very rapid in its action. Further claims are that it requires no neutralizing after use, and contains a plastic retarder which affords viscosity to keep the remover on upright and overhead surfaces.

Eclipse Spray Gun

The Eclipse Air Brush Co., 410 Park Ave., Newark 7, N. J., makers of the GAT spray gun, famous for high speed and great savings, now announces the Eclipse "45." This light-weight, low-pressure gun was developed for products finishing. The "45" not only provides an adjustment for external fan width control, but can be fitted with the exclusive Eclipse cone-fan internal nozzle. An assortment of tips and nozzles is available to meet practically any finishing need.

Eclipse Spray Equipment, Catalog 86, gives complete information on the Eclipse "45" and other low-pressure spray guns for fast, economical application of all materials.

Lacquer Use Increasing

Use of nitrocellulose in lacquer increased from about 2,000,000-lbs. in 1919 to more than 36,000,000-lbs. in 1941. When comparable figures become available for the postwar years, it is believed by lacquer specialists that the prewar volume of production of nitrocellulose lacquer will be more than doubled.

Refinishing Furniture

When refinishing furniture, two thin coats of lacquer, varnish, enamel, shellac or paint are better than one thick coat. When a thick coat of finish is applied, the surface of the coating dries quickly and seals over, so that solvents are trapped underneath and air cannot get in to oxidize the oils. The entire drying process is interfered with, so that the coating may check and become brittle on top and spongy underneath. A better method is to apply a thin coating, let it dry thoroughly, and then apply the second coating. This applies not only to furniture, but to most other surfaces as well.—N. P. V. & L. A.

We are sure to see a more extensive use of luminous coating materials on civilian products.

Booklets Catalogs Circulars

Fire Hose Folder

Stressing importance of fire hose in combatting the rising trend of losses by flame in the United States, a new folder on the subject has just been published by The B. F. Goodrich Co., Akron, Ohio. Titled "Firemen Can Work Faster with B. F. Goodrich Hose," copies are available upon request.

Lustra Reflector Lamps

A 4-page folder illustrates and describes Lustra Reflector Lamps which are made and sold by Lustra Corp. of America, 40 W. 25th St., New York, N. Y.

Quoting from the folder, "Where color-corrected illumination is desirable, Lustra special soft Daylight Spray finish provides daylight type lighting of a quality approximating a daylight effect. In commercial and industrial applications, Lustra Daylight Spray helps reduce specular glare on bright and moving objects."

Lustra reflector lamps are recommended for general overhead illumination and industrial high bay lighting in the larger sizes from 500 to 1500-watts. Also, for indirect office light and in RLM mat surface reflectors to provide overhead glareless lighting that is evenly distributed.

Protective Synthetic Coating

A 4-page descriptive folder on "Ucilon" gives properties, application data and typical uses of this protective coating that resists severest corrosive conditions. Developed from improved, inert, synthetic resins, this material is especially advantageous for maintenance work, and for products subjected to corrosive service. United Chromium, Inc., 51 E. 42nd St., New York 17, N. Y.

Remarkable Color Folder

In a new folder, "Color in Electromagnetic Energy," the relation of the visible light spectrum to the whole electromagnetic spectrum is presented with a simple diagram, and brief descriptions of the applications of the various wave lengths from X-rays through ultraviolet, visible light, infrared, short and long wave radio waves.

The function of color chemistry in making color available in a wide range of inks, paints, and finishes is briefly outlined. A chart showing the metals and their derived pigments is included.

Copies of the folder may be obtained on request to the Sun Chemical Corp., 100 Sixth Ave., New York 13, N. Y., or to any of its divisions.

National Electrical Code, $2

The safety record in the American use of electrical energy is not the result of mere chance. A small group of public-spirited engineers, members of the Electrical Committee of the National Fire Protection Association, has worked almost anonymously for 54 years to improve electrical safety. If these gentlemen needed an enduring monument to mark their unselfish contributions to the daily well-being of us all, it would be the NFPA National Electrical Code, the "Bible of the Electrical Industry" and the safety blueprint which protects even the simplest electrical installation.

The 1947 NFPA edition of the National Electrical Code is a collection of rules governing the installation, and to a certain extent, the use of electrical equipment. Its purpose is to reduce the hazard from electrical fires and electrical accidents and it does this by specifying the exact manner in which electrical materials, devices, fittings and appliances shall be both originally installed and later maintained. A strict compliance with the National Electric Code will produce an electrical installation which may be deemed reasonably safe from electrical fires or accidents.

Presented for the first time in convenient desk reference size, 6x9-in., this 408-page volume is uniform in size and format with the other four volumes of the National Fire Codes also published by the NFPA. Bound attractively in red cloth, with gold lettering, the Code contains examples, an index of all NFPA publications relating to various sections of the Code, and an advertising section of "approved" products. Address, N. F. P. A., 60 Batterymarch St., Boston 10, Mass.

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Instead of Spreading It

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Industrial FINISHING

Distributed monthly to finishing room and paint shop foremen, production superintendents and company officials of metal-working, woodworking and miscellaneous industrial plants where production cleaning and finishing are major operations in parts and products manufacture.

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Editorial

Scarce Materials and Higher Prices

That great but complicated and sensitive industrial machine, which was so well organized to supply us with everything we wanted when we wanted it, is out of gear. It was jolted out of gear during the war and hasn't worked right since. Results have hit just about everyone, everywhere.

Shortages in several essential raw materials with which to make good finishes are really critical. Manufacturers of finishing materials have had to resort to all kinds of scouting, trading and improvising in order to obtain what they could get to make finishes for their customers. They are continuing to do business in the face of serious handicaps. Under these conditions, plus increases in the cost of almost everything that enters into production, some materials are necessarily going to be higher in price, but probably not higher in quality. In fact, in some instances, some lack of customary quality may be in evidence.

There isn't much the user of finishes can do about it—except perhaps be 100% cooperative with his reliable source of supply—and then take steps to stamp out all traces of avoidable waste in the storage, handling and usage of his finishing materials and supplies. Another matter of importance is to see that employes who are entrusted to the care and use of materials are honest, reliable individuals who are cooperative and willing to learn. They will need to be reminded or taught to be more saving with all finishing materials. They may have to develop or follow some new ways to get the most out of certain finishing materials, supplies and equipment. This kind of all-around cooperation will go a long way toward helping to maintain reasonably good quality in the finishing of essential products during the days ahead. Something better in the way of conditions and materials can be anticipated in the future—we hope.

Mac's

FASHION FINISHES

LACQUERS

Available in clear and opaque, for application to surfaces of all kinds. Spread easily and give good coverage. Any sheen desirable. Attractive, outstanding finishes.

SEALERS

Ideally suited as first coat materials under clear gloss or flat lacquers. Give good body and sand easily. Also, work well under varnish and enamel! Try them!

VARNISHES

None better! Whether for dull, satin or gloss effects, Mac's varnishes will be found most economical and appropriate as finishing coats on low, medium and high priced goods.

STAINS

These are stains of distinction, with an established reputation for the highest quality. We've been making them since 1875. Mac's stains can be supplied for every need.

FILLERS

The Mac's Fashion line includes the more commonly used oil paste fillers as well as the quicker drying materials of recent development. Keep abreast of the times with Mac's fillers.

PRIMERS

Mac's Fashion primers insure full coverage and absolute protection as first coaters on metal, forming firm and lasting foundations on products subject to severe treatment and abuse.

ENAMELS

For wood, metal and other surfaces, air dry or bake. Mac's Fashion enamels, properly applied, stand up under all conditions to which painted articles are subjected.

WOOD BLEACH

Mac's Fashion bleach will bleach all kinds of wood including mahogany. Dries overnight to a definite bleached effect ready to sand, and ready for the regular finishing schedule. Samples on request.

THE LAWRENCE-McFADDEN CO.

Write for Production Test Samples

7430 STATE ROAD PHILADELPHIA 36, PA.

Headquarters for Fine Finishes Since 1875

Brand Names Assure Buyer Confidence

Manufacturers and retailers are promoting the significance of brand names and trade marks to a greater extent than ever before, according to Henry E. Abt, managing director of Brand Names Foundation, Inc.

"Advertisements stressing the meaning of brand names are appearing with widely varied sponsorship in all types of media throughout the country," Mr. Abt stated. "These campaigns have had two direct results. Public confidence in nationally advertised brands has been strengthened. And this has paid off in sales of specific products."

In summing up the campaign, Mr. Abt said its principal points are to tell consumers that: Brand-name advertising builds loyal markets which make low-cost mass production and regular employment possible; shopping by brand is efficient and quick; the variety of brands is accurately designed to meet individual taste preferences; competition between brands insures constant research to improve quality; the free choice of consumers determines what brands survive.

"These points were outlined in the plans book, *'Operation America'* which the Foundation distributed last Spring to manufacturers, advertising agencies and media," Mr. Abt said. "The plan is taking hold and results already show widespread cooperation. However, that segment of economic thought which would substitute government grades and standardization is still vocal. Popular best sellers as well as textbooks on economics for consumers are still packed with fallacious propaganda against the American system of competitive distribution, product identification and advertising. Since the best welfare of the American people lies in support of this system, there must be no boundaries, limits or maximums to the brand names campaign."

Color Progress and its Effect on Products

★ War is always a sobering influence. People forget gayety and pleasure in a serious effort to get the job done and return to a normal way of living as soon as possible. This attitude is reflected in the choice of colors for clothing, household furnishings, etc. Naturally, military equipment is finished in unobtrusive, drab, lustreless colors for reasons of camouflage and concealment. Then, when the end of the war comes, there is a feeling of joy; this is expressed in a resurgence of bright gay colors in automobiles, clothing and even railway equipment. It is a psychological reaction from grief and hardship to relief and thankfulness.

After World War I this feeling expressed itself in flamboyant colors without much relation to color harmony or good taste. However, between World War I and World War II, color in its relation to human behavior, safety and efficiency

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★ Guest Editorial . . . Many readers can write an excellent editorial — two or three paragraphs that present a timely suggestion or valuable idea which will stimulate real thought on a live subject. The Editor welcomes guest editorials and pays for those that are published.

An *Outstanding* Line of Wood and Metal Finishes

OF PROVEN worth in product finishing, any material in the New Period line of production finishes will satisfy the most exacting needs. For example, attention is directed to the following items:

No. 282 LACQUER SEALER—A modern formulation, high solids Lacquer Sealer that sands in one hour. Economical to use; geared for fast production schedules. Order a five-gallon test sample at drum price to actually see for yourself that here is a sealer that you can use to excellent advantage.

NEW PERIOD LACQUERS—Here is a complete line of superior gloss, semi-gloss, clear and pigmented lacquers. The stamp of approval has been put on these NEW PERIOD Lacquers by many satisfied users. A production sample will convince you.

Other items in the New Period line — baking enamels; primers; synthetics; stains; fillers; shellac; varnishes and supplies are quality materials of proven worth.

OUR COMPLETE LINE OF NEW PERIOD FINISHES AND OUR LABORATORY FACILITIES ARE AT YOUR SERVICE. WRITE US!

NEW PERIOD Production Finishes

ESTABLISHED 1917

NEW YORK WOODFINISHERS' Supply Co.

109 IMLAY STREET BROOKLYN, N. Y.

came in for serious study and effective research and experimentation. As a result, we find that today *the preference is for colors and color combinations that are not merely flashy but are pleasing and restful to the eye as well as uplifting to the spirits.*

One does not see the new automobiles finished in fire chief red and Kelly green, as they were after the first world war. Instead, the tendency is toward harmonious combinations of softer colors. In the house, the furnishings are selected to harmonize with and supplement the colors in the rug or carpet, for the reason that the floor covering is the largest area of color tone in the room.

Industrial designers nowadays do not confine their recommendations merely to efficient mechanical operation of a piece of equipment. They also give careful consideration to color from the standpoints of beauty and restfulness in household furniture and equipment; and safety, efficiency and relief from eyestrain in industrial equipment.

To supplement the work of the industrial designer, some paint manufacturers have organized and equipped color laboratories and studios which are prepared to give expert advice on color harmony to the architect and the home decorator, as well as the furniture manufacturer and the machinery industry. Very often the designer, decorator or engineer calls on these paint laboratories for advice as the paint manufacturer is in close touch with the pigment situation in its relation to availability and cost.

Frequently a very slight change in shade will result in a definite lowering of cost without detracting from color harmony and utility. Then again, raw material shortages may result in unnecessary delays which may be avoided or prepared for by cooperation between the designer, architect, decorator or engineer with the paint manufacturer. This service is usually available without charge or obligation and is being used to advantage by many alert manufacturers, designers, decorators, and even home-owners.—H. C. LEWIS.

Better Inspection in 1947

★ Buyers in all fields have tolerated lower standards of perfection during the war, and then through the period of scarcity. In 1947, this trend will be sharply reversed: Purchasing agents, store buyers, and customers alike will be demanding a return to the standards of inspection which bring perfect products.

Naturally, this demand for quality increases the importance of the finishing department. That 1947 will require the best work possible may be taken for granted: That, in this new year, the public will be looking for the finest products since 1941 is a point which must be accepted as part of current planning.

The principles of good inspection should be taught every employee; they should be kept under constant check by foremen in the finishing department, and made the basis of efficiency records all along the line. Each worker ought to know in detail what he can do in connection with his own tasks to reduce the percentage of items that cannot pass final inspection. Foremen need definite information on controls to assume minimum rejections. Inspection as a routine must start earlier in all manu-

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Complete Finishing Systems

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Sounds fantastic. But that's just what we have to offer the furniture industry.

To explain: Before we installed a single furniture conveyor, our engineers lived with the industry for over a year, studying and analyzing its methods. When we finished our survey, we were so confident of our ability to increase profits that we agreed to accept payment for the first installation out of the profits!

Today, with a background of 20 years' experience in solving problems incidental to the industry, we are more capable than ever of solving your production problems.

PALMER-BEE CONVEYORS

PALMER-BEE CO.

DETROIT 12, MICH.

SAVINGS up to 25% of your Finishing Cost!

with a G. M. No. 5 PRESSURE SPRAY GUN

Patented Nozzle Reduces 25% Mist and Saves Paint

Better atomization, greater speed, G. M. Gun lays material more uniformly on object. Excess mist eliminated; paint saved. Patented nozzle with combination of external and internal atomization gives double breakage; finer atomization. From 1/8-in. to full wet 14-in. fan spray. Very moderate price. Immed. delivery.

SPRAY BOOTHS

G. M. MANUFACTURING CO.

Engineers, Mfrs. of Complete Spray Equipment

216 N. Clinton St. Chicago, Ill.

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facturing and finishing processes, to avoid both loss of profits and loss of markets.

Even when production meets rigid inspection standards, within quite reasonable percentages of rejections, there may still be room for further improvement. A small gain in this respect can do much for final profits. If the overall rejections are satisfactory, additional study may point out that particular trouble spots still exist, although hidden in the general average. Minor changes there will help lower the percentage, leading to opportunities for still better inspection standards and improved customer-acceptance in the markets. For the standards will continue to grow more severe as customers become increasingly critical of their purchases.

While the finishing department seeks to meet tough inspection assignments in 1947, using to the best advantage its present facilities, it will be well for management to study the most modern equipment offered during the new year. Possibilities in this direction are advanced not alone by workers and foremen who understand inspection problems, but also by finishing departments using highly efficient and modern equipment.—G. M. D.

"Frozen Face"; a Buyer Who Can Say "No"

★ Many a salesman is prone to damn a finishing department head or a purchasing agent who fails to embrace with instant ardor the particular product or service the salesman is offering. The offender is a "sourpuss" or a "cold fish" or what not. From the salesman's

reports to his home office, it will appear that the prospect is several notches lower than a Pontius Pilate or a Benedict Arnold or a Republican industrialist seen through Moscow spectacles.

Yet if an unbiased observer goes out and looks at the department or the office run by this allegedly hard and soulless despot, he will almost invariably find conditions of efficiency, or real output or work and of good group performance, far better than those where the operations are conducted by a man who is too much of a good fellow.

Let's recognize then that efficiency does call for separating personality from policy; it calls for saying "no" when "no" should be said, instead of hedging with "maybe;" it calls for a reasonable degree of administrative austerity. Such an attitude on the users' or buyers' part will force sellers first of all to make sure that the proposition they are presenting is one actually worth presenting, and it will impel them to see to it that the presentation is clear and incisive and interesting. It will winnow the wheat of salesmanship from the chaff. It will reward the buyer with a saving of time, and as a rule with better products and services. And it will justly and properly reward the alert and intelligent and honest salesman at the expense of the man who tries to sell on glamor-boy tactics alone.

All of which certainly does not mean that either friendliness or friendship is necessarily out of place in a wholesome buyer-seller relationship. Friendliness is a part of good manners and as such should be a part of any business contact. Friendship may develop from mutual respect and liking,

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engendered in buyer and seller by their contacts with each other. But such friendship is a result of good business dealings and should grow out of those dealings—not the other way around.

The department manager or the buyer has every right to remain unimpressed until the seller shows intelligently that there really is something to be impressed about. Let's not abuse him if we, the sellers, sometimes fail to have or to present facts justifying real interest on his part. — Samuel J. Miller. (The Du Bois Co.)

Those New Postwar Finishing Materials

★ During the war, users of finishing materials were compelled to use many substitutes in finishing. Fortunately most of those materials produced good finishes. This was largely due to the ingenuity of both the manufacturer and the user of the materials. By their cooperation some finishes were obtained that were actually superior to pre-war finishes.

We saw some marvelous finishing materials (as to durability and protectiveness, etc.) produced for use on war products. The assurances of manufacturers of materials led us to believe that immediately after the cessation of hostilities many new types of finishing materials would be developed and quickly placed on the market. With the experience gained in formulating and manufacturing war finishes, we expected these new materials to be revolutionary as to beauty, simpleness of application, and durability.

Well, as yet, very few of these new materials have appeared on

the market. Many of us have become impatient and are asking, "Where are the new and improved post-war materials?" Perhaps some people have formed the opinion that manufacturers of finishing materials don't want to go to the extra expense of adding new lines, or adding expensive equipment at the present time, especially since they can sell all of the old type materials they can produce. But that isn't the real reason why the new type finishing materials are not on the market today. There are two reasons for our not being able to get those materials, which are:

First and the principle reason is the lack of raw materials. Most of the manufacturers of finishing materials are exhausting every effort at their command to get enough raw materials to keep their customers supplied with the old type finishes. Several raw materials are more scarce than they were during the war. In many cases, manufacturers of finishes, like concerns in other industries, are finding it extremely hard to get enough materials to operate their plants.

Another reason is that in some cases it requires new and different equipment to manufacture the improved materials. It is almost impossible right now to buy new manufacturing equipment, so this is another handicap to the manufacturer of finishing materials—probably there are several others.

We are all eager to get the new materials and the manufacturers are just as eager to supply us. These materials will become available just as soon as it is humanly possible to put them in production and get them on the market. In the meantime, we will just have to go along as we are now, with our present materials.—H. W. Chester.

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Fixing Rejects Teaches New Employees

Rejects, like the poor, will always be with us. Some are caused by material failure during processing; some are due to carelessness, with perhaps the largest percentage credited to man-made mistakes. Men who work are bound to make mistakes, especially those whose rhythmical job it is to finish products on a conveyor line.

What is to be done about rejects? Since elimination is impossible, the next best thing is to reduce their number to a minimum. One method is by education of the workers, either through the medium of a company magazine, or by bulletin, short and to the point. Give them actual figures as to cost of rejects at stipulated points in completion of the product, cost of repairs, and loss in production.

Another method is to place the responsibility of reject reduction on groups of employees or on departments, through wage incentive or bonus plans. If a group of workers or an entire department is affected financially through the carelessness of one or two employees, the rest of them will very likely use corrective measures, such as education or persuasion to make them more careful.

Reduction in cost of rejects can be accomplished through frequent and adequate inspection. By this plan, defective products are taken out of production quickly, before more labor and material are expended on them.

One large mid-western manufacturer has put on periodic drives to reduce rejects—with some success. Then he has sought to make the remaining minimum of rejects pay their way—also with success. This

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manufacturer does have frequent and adequate inspection. Rejects are removed from the line. Those that call for only minor repairs are handled at repair stations located along the conveyor. Those that require more corrective work are loaded onto a truck and delivered to one of the company's plants located in a small town six miles away.

This plant is known as the school for finishers. Here new employees are trained for spray operators, sanders, inspectors, patchers, and rubbers. Equipment and methods are similar to those in the main plant, except that everything is on a smaller scale. The crew is small enough to permit personal training and supervision. Production is not under severe pressure, because of fewer rejects in the main plant, yet it is sufficient to supply steady work for the small group while they are learning this company's methods. As the workers become more proficient, they graduate from the school, and move over to the main plant to carry on all the better for having learned by correcting other emloyees' mistakes.

Monsanto Has Western Division in Seattle

Formation in Seattle of a Western Division, as a major industrial unit to supervise continually expanding operations centered on the Pacific Coast, is announced by Monsanto Chemical Co., St. Louis, Mo.

The new operating division consists of four plants prominent in the manufacture of plywood glues, paint and wood preservatives. One plant is located at Los Angeles, and major plant sites are situated at Seattle, where a $2,000,000, 3-year construction program is scheduled to start soon. Included in the Division are plants at Lockport, N. Y. and Portsmouth, Va.

The four plants of the new division were the principal units of I. F. Laucks, Inc., which has been operated by Monsanto as a wholly-owned subsidiary since its 1944 merger with the St. Louis company.

Rugged Duty Light Bulbs

A 4-page illustrated Bulletin, No. 103, describing four types of light bulbs especially designed for rugged-duty service where ordinary light bulbs fail to stand up, has just been issued by Lustra Corp. of America, 40 W. 25th St., New York 10, N. Y.